

FINE ARTS

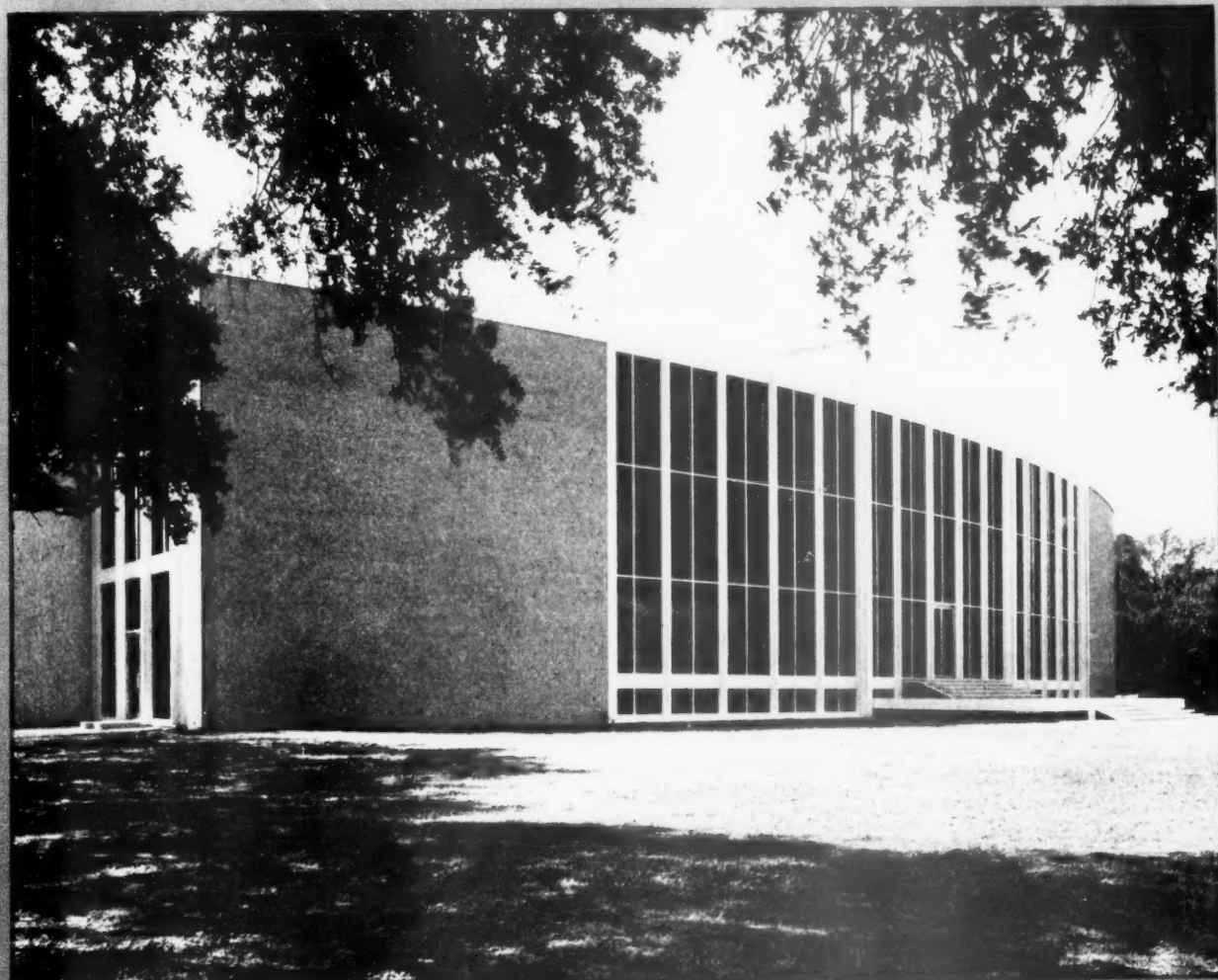
DETROIT PUBLIC LIBRARY MAY 27 1959

THIRD SERIES VOL 66 NUMBER 7

MAY 1959

THE JOURNAL OF THE ROYAL INSTITUTE OF BRITISH ARCHITECTS

66 PORTLAND PLACE LONDON W1 • THREE SHILLINGS AND SIXPENCE



The new Cullinan Wing, Houston Museum of Fine Arts, Texas. Architect: Mies van der Rohe

32

contracts

from the

English Electric

CO. LTD

endorse the supremacy of



VENTILATION

Time and again, industrialists large and small place repeat orders with Colt. And for three good reasons. Colt ventilation systems depend in the main on internal convection currents—not external forces—and are therefore little affected by the vagaries of the wind. Colt offer an unparalleled range of ventilators. And most important, every Colt recommendation is based on a thorough analysis of the building, plant and process either from a site survey or drawings. Such thoroughness influences firms such as the English Electric Co. Ltd. It will impress you, too.

Send for free manual to Dept. AF 29/5

Among the 12,000 major Industrial Organisations using Colt equipment are:

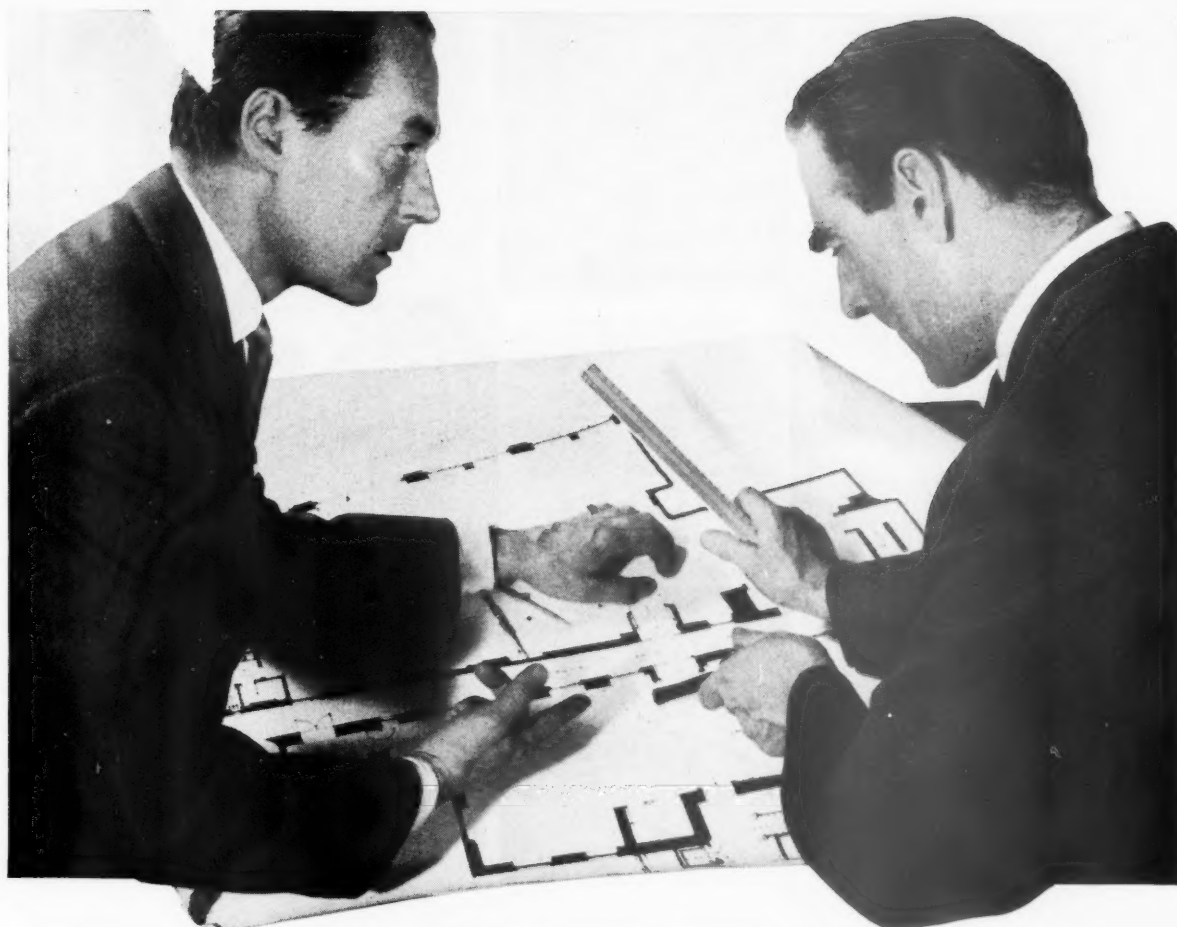
- 15 contracts: Cow & Gate Ltd.
- 20 contracts: Courtaulds Ltd.
- 37 contracts: Vickers-Armstrongs (Aircraft) Ltd.
- 6 contracts: Smith-Clayton Forge Ltd.
- 29 contracts: National Coal Board
- 22 contracts: Lever Bros. Port Sunlight Ltd.



COLT CO 2046 VENTILATORS AT THE ENGLISH ELECTRIC CO. LTD., RUGBY



COLT VENTILATION LIMITED . SURBITON . SURREY . TELEPHONE: ELMBRIDGE 0161 (10 LINES)



"AND FOR THE FLOORING WE'LL USE

MERTHYRWARE"

Floor tiling that's guaranteed for longer wear and even colour

More and more architects are specifying Merthyrware modern floor tiles — because their colour and hard wearing quality is guaranteed. Their deep rich, satisfying red and buff colours are clear, without flecks or blemish. Their hard wearing, impervious surface is easily cleaned and maintained. Specify *Merthyrware* for all housing, municipal and industrial uses, and for schools too.

Always specify Merthyrware tiles

MERTHYRWARE TILES

They never wear out

MERTHYRWARE LTD • HEOLGERRING • MERTHYR TYDFIL • PHONE MERTHYR TYDFIL 2793

MONSANTO HOUSE
VICTORIA STREET

Architects:
Sir John Burnet,
Tait & Partners



BOWATER HOUSE
KNIGHTSBRIDGE

Architects:
Guy Morgan & Partners



LYNTON HOUSE
TAVISTOCK SQUARE

Architect:
Raymond C. Arnold



J. ARTHUR RANK ORGANISATION
BELGRAVE ROAD · SW1

Architects:
T. P. Bennett & Son

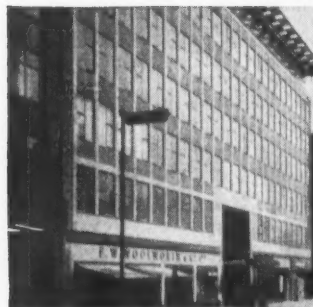
ROYAL COLLEGE OF SURGEONS
LINCOLN'S INN FIELDS

Architects:
Young & Hall



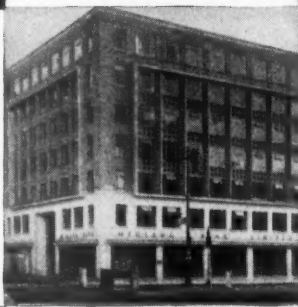
I ST. JAMES'S SQUARE

Architects:
Mewes & Davies



BISHOP HOUSE
HIGH HOLBORN

Architects:
Trehearne & Norman,
Preston & Partners

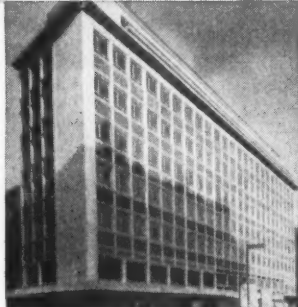


VOGUE HOUSE
HANOVER SQUARE

Architects:
Yates, Cook & Darbyshire

WINGATE HOUSE
SHAFTESBURY AVENUE

Architects:
Sir John Burnet,
Tait & Partners



55-56 ST. JAMES'S STREET

Architects:
Lewis Solomon, Son & Joseph



VICTORY
EX-SERVICEMEN'S CLUB
SEYMOUR STREET
Architect:
Alistair Macdonald



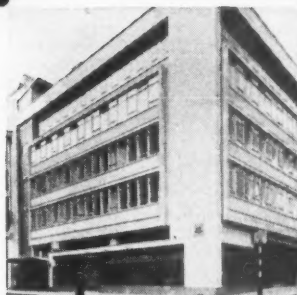
PENBERTHYS LTD
OXFORD STREET
Architects:
G. Edmund Wilford & Son



ANISATION
I



THE BIBLE COLLEGE
MARYLEBONE ROAD
Architects:
Clifford Culpin & Partner



A. DUNHILL LTD
JERMYN STREET
Architects:
T. P. Bennett & Son



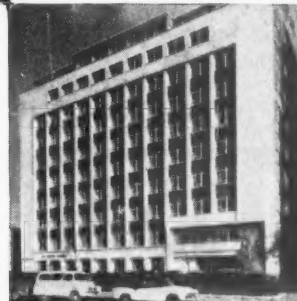
129 KINGSWAY
Architects:
Fitzroy Robinson & Partners



QUAGLINO'S
JERMYN STREET
Architects:
T. P. Bennett & Son



**London
beyond the City
builds with ...**



12-18 ALBERT EMBANKMENT
Architect:
Leslie C. Norton

CRITTALL WINDOWS



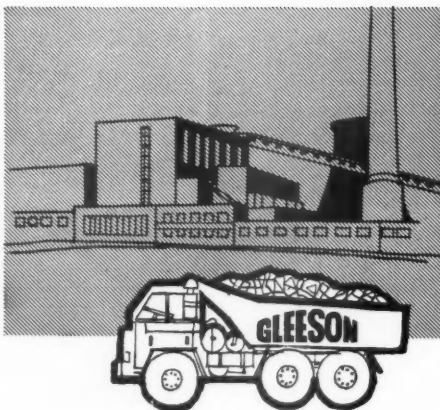
THE CRITTALL MANUFACTURING CO. LTD • BRAintree • ESSEX • BRANCHES & DEPOTS THROUGHOUT THE COUNTRY

TB 17/99

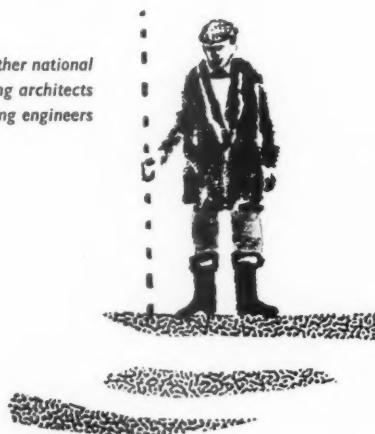
Building and Civil Engineering

Contractors

with wide experience
of power station
construction
railway improvement
road development
and coast protection schemes
pre-stressed concrete
bridge building
multi-storey flats



*Contractors to the CEEB/UKAEA/BR/NCB/LCC and other national
and local authorities, and to leading architects
and consulting engineers*



GLEESON

LONDON • MANCHESTER • SHEFFIELD

M. J. GLEESON (CONTRACTORS) LTD
Haredon House, London Road, North Cheam, Surrey
Telephone Fairlands 4321 (8 lines)

TA2027

LONDON STOCKS



14 Queen Victoria Street, E.C.4
City 4333



St. Paul's Church, Harlow.
Architects: Humphrys & Hurst, F./A.R.I.B.A.

THE BRICK FOR EVERY PURPOSE

Grade	Description	Uses
1. Yellow Facings	Uniform deep yellow colour, regular shape	Facings, when a uniform colour is required, dressings, arches, etc.
2. First Hard Stocks	Varying colour, hard, good shape	Facings
3. Second Hard Stocks	Hard, varying colour, slight irregularity in shape	Facings and foundations
4. Mild Stocks	Fairly hard. Have at least two faces of good colour	Facings for housing schemes, schools and industrial buildings, etc.
5. Single Rough Stocks	Very hard, irregular in shape	Foundations, garden walls, etc.
6. Common Stocks	Soft, of regular shape	As a backing brick or in face work with a rendered finish

AND RED AND MULTI FACINGS, ALSO MADE FROM THE SAME BRICEARTH, SAND FACED IN A VARIETY OF SHADES, MACHINE MADE AND HAND MADE IN 2' AND 2½'.

Enquiries should be addressed to

Beach's Brickfields Ltd.,
Rainsford End Brick Works
Chelmsford, Essex.
(Tel.: Chelmsford 2595)

*C. Burley Limited,
Sittingbourne, Kent
(Tel.: Sittingbourne 499/500)

*Cement Marketing Co. Ltd.,
Portland House, Tothill Street,
London, S.W.1.
(Tel.: ABey 3456)
(Works in Kent)

Cremer, Whiting & Co. Ltd.,
Faversham, Kent.
(Tel.: Faversham 2233)

The East Acton Brickworks
& Estate Co. Ltd.,
Brookside Brickworks, Hayes,
Middlesex.
(Tel.: HAYes 0164)

Eastwoods Ltd.,
Eastwood House, 158/160 City Road,
London, E.C.1.
(Tel.: CLerkenwell 2040)
(Works in Essex, Kent & Hampshire)

*The Great Wakering Brick Co. Ltd.,
11 Weston Chambers, Weston Road,
Southend-on-Sea, Essex.
(Tel.: Southend-on-Sea 42222)

*Low Street Brickworks Ltd.,
East Tilbury, Essex.
(Tel.: Tilbury 2897)

Milton Hall (Southend) Brick Co. Ltd.,
16 Warrior Square,
Southend-on-Sea, Essex.
(Tel.: Southend-on-Sea 66293)

Newington Bricks Ltd.,
Newington, Nr. Sittingbourne, Kent.
(Tel.: Newington 338)

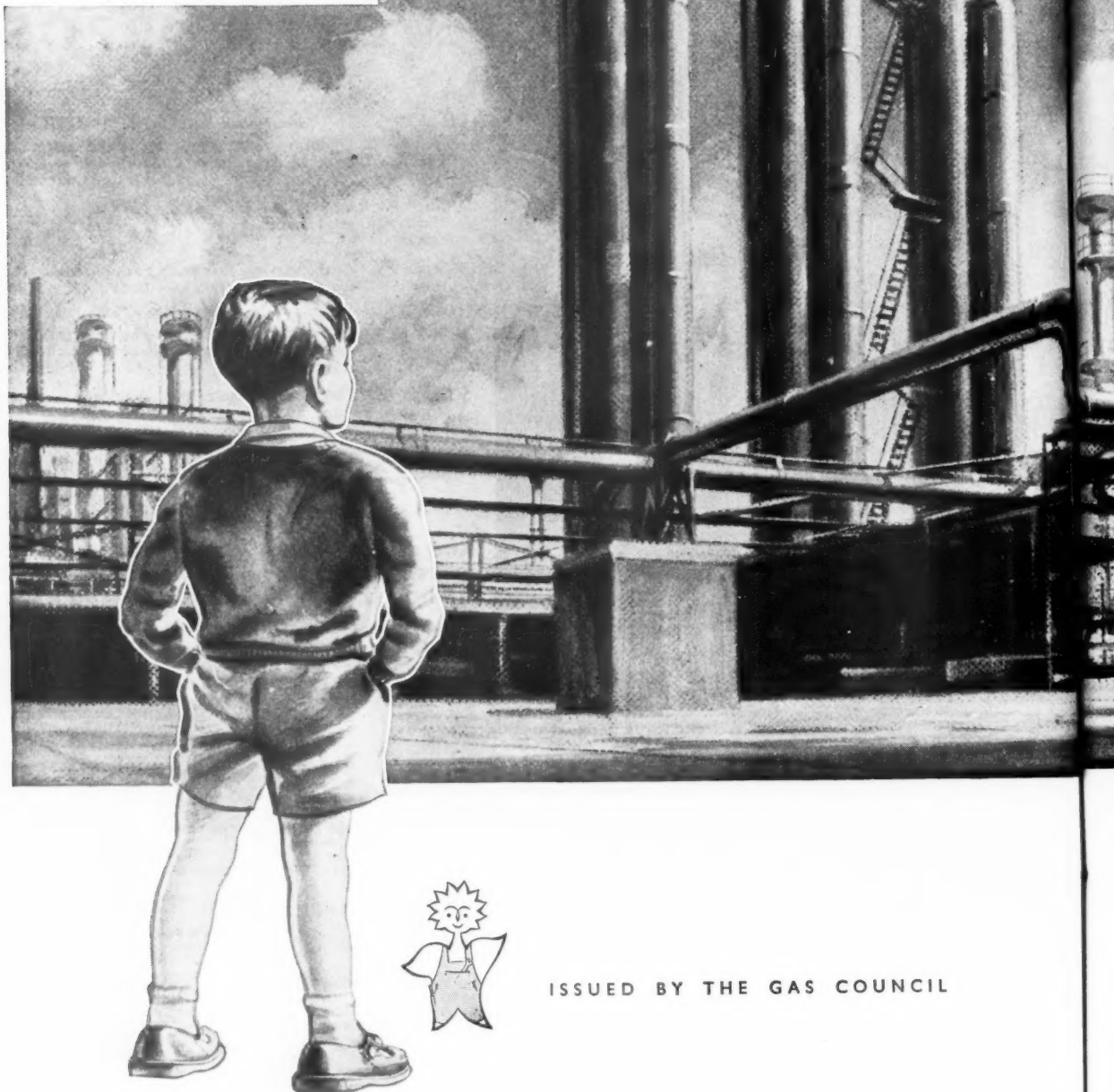
*Southend-on-Sea Estates Co. Ltd.,
16 Warrior Square,
Southend-on-Sea, Essex
(Tel.: Southend-on-Sea 66293)

Wills & Packham Ltd.,
Sittingbourne, Kent.
(Tel.: Sittingbourne 43)

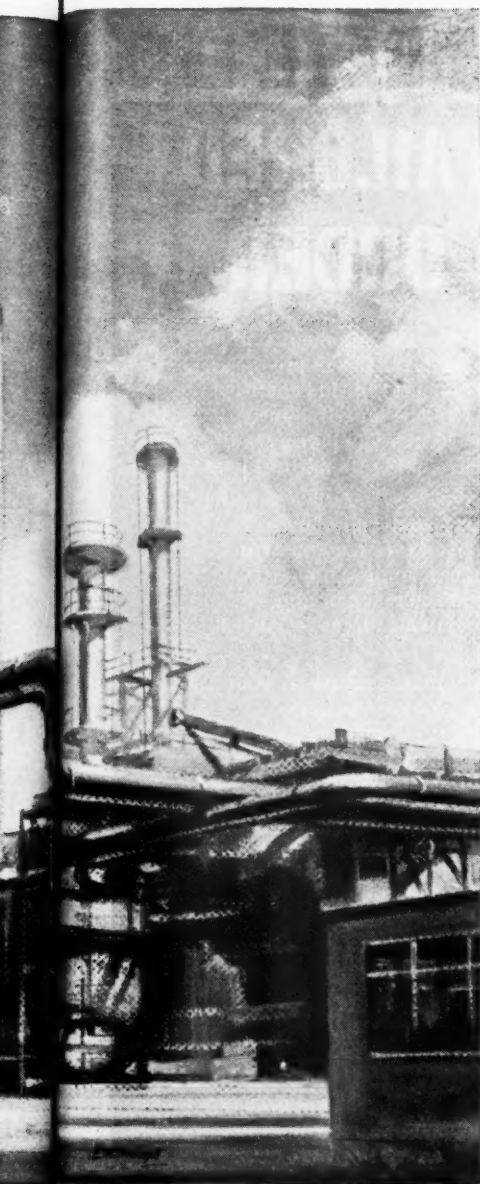
*C. S. Wiggins & Sons,
Hart Road,
Thundersley, Essex.
(Tel.: South Benfleet 2591)

* Producing London Stock Bricks only.

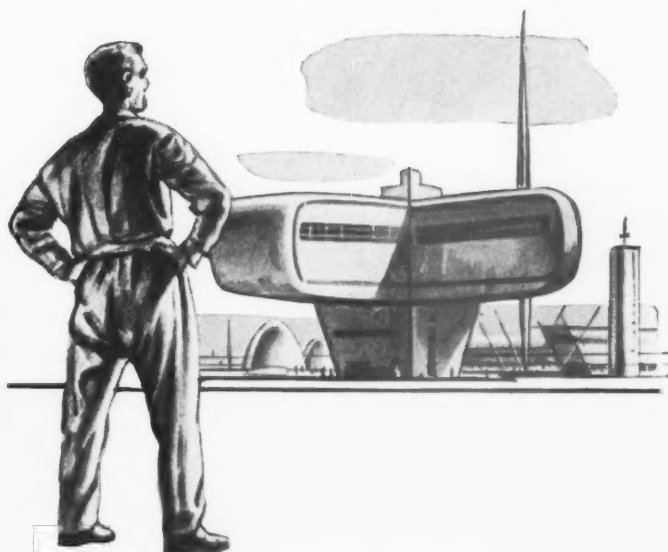
Today



ISSUED BY THE GAS COUNCIL



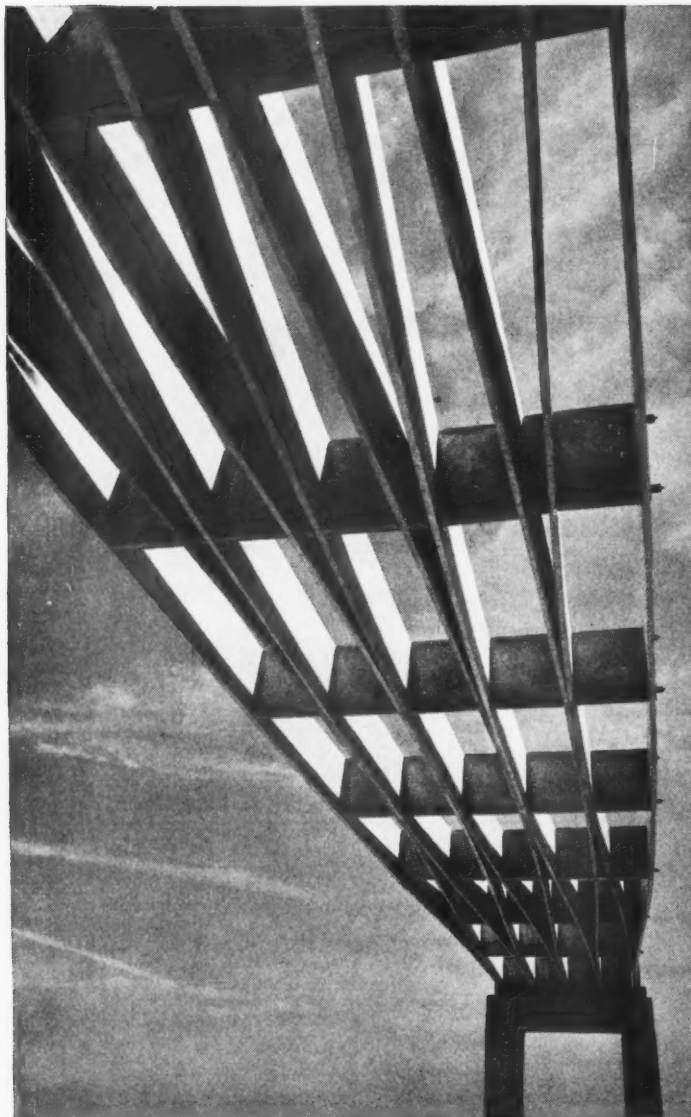
Tomorrow



Today architects and builders can keep up to date with new technical data on gas and coke appliances and their installation:—sections 1 and 2 (Domestic Space Heating), 3 (Domestic Water Heating), 4 (Gas Flues), and 5 (Coke) are now available. Meanwhile continuous research and a comprehensive Consumer Service ensure that tomorrow gas will be even more the preferred fuel for cooking, space heating and water heating . . . **AND TODAY**—every industry and 12 million homes use GAS.

C31/3Z

PRE-STRESSED CONCRETE



The versatility of Pre-stressed concrete, demonstrated by this example of Pre-tensioned forty-foot span units, may be seen at Iwer.



CONCRETE DEVELOPMENT COMPANY LTD
Office and Works: Iwer, Bucks. Telephone: Iwer 1131

TAILORED TO ORDER

The Concrete Development Company has pioneered the use of pre-stressed concrete in this country, particularly the long-line fully bonded system, and plays a leading part in developing its natural uses.

Over the years C.D.C. have acquired much experience and knowledge. They have trained a competent staff who can achieve a quality far beyond the reach of non-specialist labour forces recruited at a site.

C.D.C. will manufacture to your exact design under factory conditions. You will receive your pre-stressed precast units exactly at times to suit your site requirements.

In addition to a very substantial saving of material in pre-stressed units, factory manufacturing reduces site work, improves site performance and minimizes waste and delays caused by weather and shortages of labour.

Our specialist staff is at your service to manufacture — and design if you wish — Pre-stressed Precast Concrete Units — even for purposes for which concrete may never have been used before.

Production of Pre-stressed Precast Structural Units is controlled at all stages by experienced engineers, competent supervisory staff and workmen who will be glad to collaborate with you.

**CONCRETE
DEVELOPMENT
COMPANY
LIMITED**

BIG NEWS! Another *FIRST* by 'Henderson'

'Double Top'

Patents pending

WARDROBE DOOR GEAR

For built in space saving sliding doors.

4 Standard Sets complete for openings 4 ft. to 8 ft. wide for two and three passing doors.

Takes doors up to 60 lb— $\frac{3}{4}$ in. to $1\frac{1}{8}$ in. thick.

Well cartoned with fixing details. Simple to store.

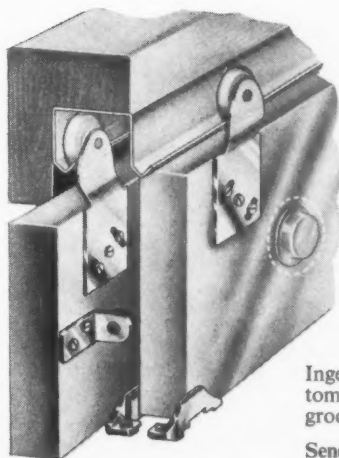
'DOUBLE TOP' STANDARD SETS containing Track—Hangers—Guides—Stops—Flush—Pulls—all screws.

Set No. 4W suit 2 passing doors up to 4 ft. wide 34s.

Set No. 5W suit 2 passing doors up to 5 ft. wide 38s.

Set No. 6W suit 2 passing doors up to 6 ft. wide 42s.

Set No. 8W suit 2 passing doors up to 8 ft. wide 61s 6d.



Jump proof (rust-less), double track. Minimum headroom.

No mortising, quick fixing.

Silent nylon wheels on silver-steel axles—vertical adjusting hangers.

Doors lift off/on—yet jump proof.

Ingenious adjustable nylon bottom guide. Screws to floor—no grooving.

Send for List D.T./RIBA

'Ultra'

Overhead Garage Door Gear



Overhead Doors are safe—quiet—always positive, on Henderson 'Ultra' Gear.

4 Standard Sets from £10 18s. 9d. per set. 'Ultra' Set 150 with the famous and popular Door illustrated, £18 17s. 9d. Size 7ft. wide x 7ft. or 6ft. 6in. high.

Ask for lists OD/RIBA and AD/RIBA



'Marathon'

Ball Race Sliders

'Marathon' Ball Race Door Sliders for all interior doors. In thousands of lovely homes—ships—coaches—hospitals, the world over.

9 Standard Sets from 42s. set.

'Lobby' Housing Sets—from 32s. 6d. set.

Write for list M/RIBA

'Tangent'

Garage Door Gear



For doors sliding round the corner. 400,000 sets in use all over the world. 'Tangent' can be special and tailored to suit any width of opening, or Standard Sets are from £11 8s. per set for 8ft. openings.

Request List T/RIBA

Qualified technical representatives in all areas readily wait upon you—without obligation.

Every room in every Architect's office should have a 'Henderson' catalogue (184 pages).

Henderson

SLIDING DOOR GEAR

For any door, partition or window that slides or folds

P. C. HENDERSON LIMITED · ROMFORD · ESSEX

Telephone: INGrebourne 41111. London calls dial IL4, then ask for 41111.

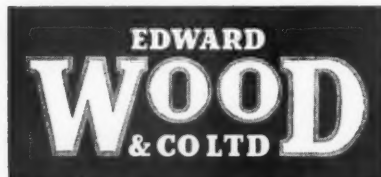
H131



Landmarks of the Future

This multi-storied building in structural steel will cater for the manufacture of chemical products based on silicates. The design makes provision for fork lift truck operation on all floors and incorporates a load bearing roof.

Steelwork for this landmark by—



CONSTRUCTIONAL ENGINEERS

Registered Office and Works:

OCEAN IRONWORKS · TRAFFORD PARK · MANCHESTER 17

London Office: 68 Victoria Street, S.W.1. Telephone: VICTORIA 1331/2.

Telephone: TRAfford Park 2341 (10 lines)

Technical Offices at Birmingham and Nottingham

dmWDSS

New Chemical Building for Joseph Crossfield & Sons Ltd., Warrington.



Hollow-tile floors, roofs and balconies by

KLEINE



*Sylvan Hill Estate,
for Borough of Croydon;
Borough Engineer & Surveyor:
A. F. Holt, M.I.C.E.,
M.I.Mun.E., M.I.Struct.E.
Architects: Riches & Blythin
(L. C. Holbrook, F.R.I.B.A.)*

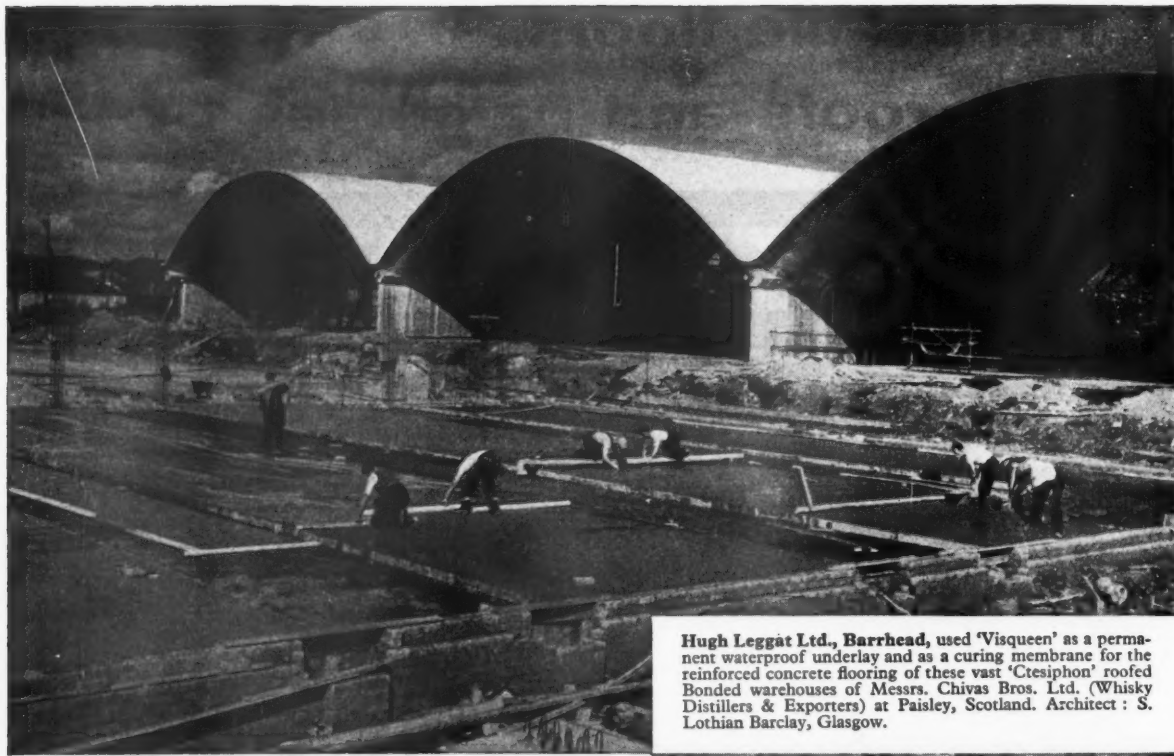
This is one of many postwar housing schemes carried out by the Borough of Croydon, in which Kleine construction was used.

There have been others at Brigstock Road, Heathfield Road, Violet Lane, Denmark Hill, Ely Road and Castle Hill.

At Shrublands (Stage 2) we are now engaged on yet another Croydon Borough Housing Scheme where, in addition to building 14,000 sq. yd. of Kleine floors and roofs, we are to build the reinforced-concrete frame to the 7-storey Tall Block.



THE KLEINE CO. LTD., 9-13 GEORGE STREET, MANCHESTER SQUARE, LONDON, W.1.
Branches at Manchester, Birmingham, Newcastle, Bristol, Southampton and Glasgow.



Hugh Leggat Ltd., Barrhead, used 'Visqueen' as a permanent waterproof underlay and as a curing membrane for the reinforced concrete flooring of these vast 'Ctesiphon' roofed Bonded warehouses of Messrs. Chivas Bros. Ltd. (Whisky Distillers & Exporters) at Paisley, Scotland. Architect: S. Lothian Barclay, Glasgow.

Up-to-date builders fight rising damp with

VISQUEEN film
TRADE MARK

'VISQUEEN' building sheet makes an excellent damp-proof membrane under concrete flooring and foundations. It is fully impermeable and acts as a complete barrier to liquids. 'Visqueen' also resists acid subsoils and alkalis. Once laid it will last indefinitely either in or under concrete.

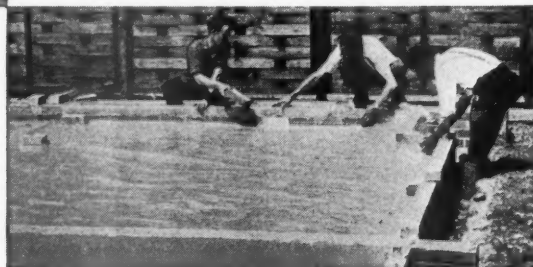
'Visqueen' is inexpensive and easy to handle on site. Its lightness, flexibility, availability in wide widths and various thicknesses makes 'Visqueen' efficient and labour saving.

'Visqueen' 250 (medium weight) or 500 (heavy weight) is recommended for this particular application.

For an illustrated brochure, samples and prices write to the address below.

BRITISH VISQUEEN LIMITED
STEVENAGE HERTS. 'PHONE STEVENAGE 1310

A SUBSIDIARY OF IMPERIAL CHEMICAL INDUSTRIES LIMITED.



Unity Structures Ltd., London, used 'Visqueen' 500 (heavy weight) as a damp-proof membrane between the hardcore and concrete flooring of these two semi-detached prototype houses built by them at Ruislip. The film was laid at floor level in 12 ft. widths in one continuous strip over the party walls, and built into cavity walls at D.P.C. level.



John McLean & Sons Ltd. of Wolverhampton, use 'Visqueen' sheeting as a damp-proof membrane under the ground floor rafts of their "Beverley" houses in the Midlands. Architects: Diamond Hodgkinson & Partners.

BV.127/1

A NATIONAL RECORD!

Bilston Grammar School built in record time

(An extract from the Express & Star, January 12th, 1959)

Mr. A. C. H. Stillman, Staffordshire County Architect, has telephoned the Ministry of Education to ask if Bilston has the record for the speedy building of a two form entry grammar school.

They told him: "Yes—yours is the quickest any school of this type has been built in the country".

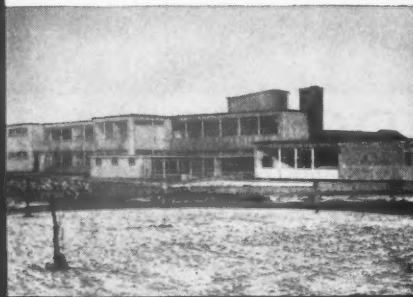
FACTS

Up went the Bilston school, in fact, in three months less than the contract time of 12 months and the secret behind the nine months lightning operation was **PLANNING FOR SPEED** from the very first!

The construction of the whole school was based on the Thermagard system—a system incorporating a specially designed steel framework, aluminium windows, pressed metal cills and flashings that can be fitted before the cladding of the building is commenced. Roofs, floors, cladding and services can then proceed simultaneously at all levels.

The Thermagard modular system of construction for schools is the answer to faster building. The potentialities of pre-contract planning, inherent in the Thermagard system, save time in the Architects and Quantity Surveyors office. In the case of the Bilston school, pre-planning was so effective that steel erection commenced in under 7 weeks from the time that the Ministry gave permission for the school to be erected. From April 1958, when the site was an uneven, part-waterlogged waste dump until January 1959 when the school was occupied, the Thermagard system played a very important part in speeding the job to an early completion date.

You can **PLAN**
and **BUILD**
SCHOOLS
F-A-S-T-E-R
with the
THERMAGARD
SYSTEM



S-P-E-E-D the job with the
THERMAGARD
system of construction
for schools

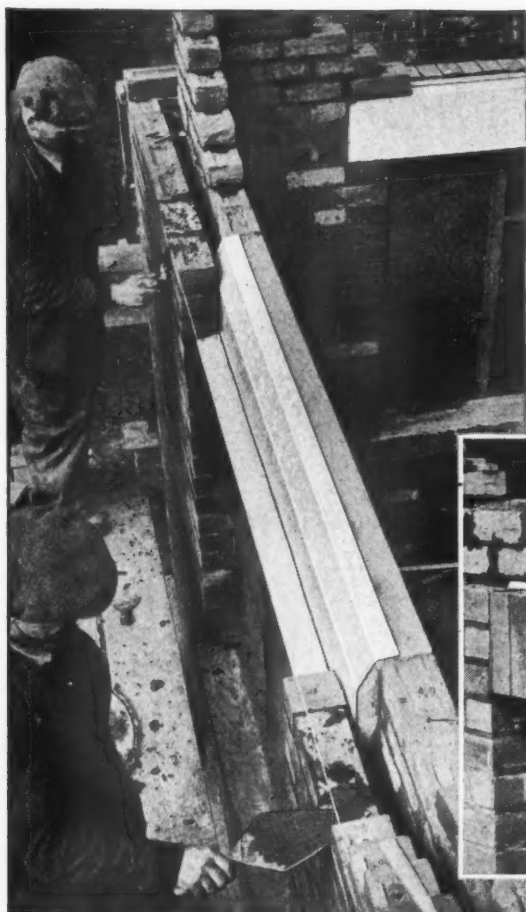


GARDINER
OF BRISTOL

Ask your Secretary to write now for our illustrated brochure 'School Story', detailing the Thermagard system of construction for schools.

Gardiner, Sons & Co. Ltd., Box No. 140, Broad Plain, Bristol 2 and 8 William IV Street, Strand, London W.C.2
Stafford Office: 11 Bridge Street, Stafford.

H-W.145

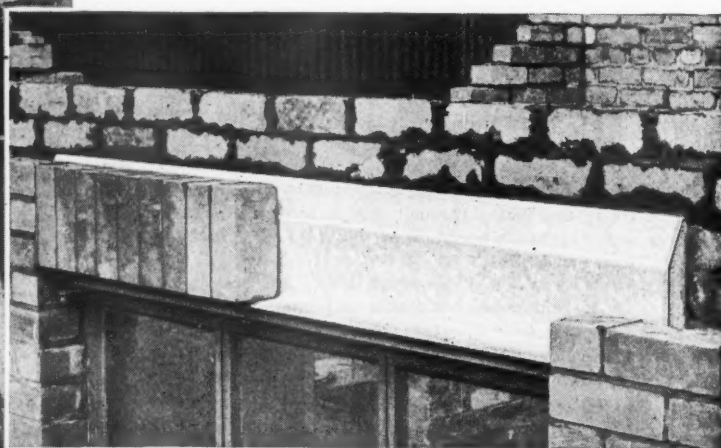
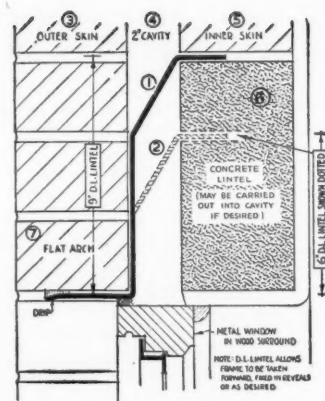


SECTION SHOWING TYPICAL DETAIL

- (1) 9 in. Dorman Long Lintel
- (2) 6 in. Dorman Long Lintel (shown dotted)
- (3) Outer skin
- (4) Cavity
- (5) Inner skin
- (6) Inside concrete lintel (carried out into cavity if so desired)
- (7) Flat arch

The wide 'turn-in' of the Dorman Long Lintel allows the cavity to be varied from 2 in. to 2½ in. in width.

Patent No. 694214



THE DORMAN LONG LINTEL

Combined Angle Arch Support & Dampcourse Tray
IN HOT-DIP GALVANIZED STEEL, FOR USE AT THE
HEADS OF OPENINGS IN EXTERNAL CAVITY WALLS

Comes on site to required length ready to fix.

Large saving in site labour costs.

Cannot be damaged in cavity cleaning.

THE DORMAN LONG LINTEL has only to be placed into position over the head of the opening, and without delay the work carries on.

Prices and details from :

DORMAN LONG (Steel) LTD., Sheet Dept., Middlesbrough
or from district offices at London, Birmingham, Manchester,
Newcastle, Belfast, Glasgow.

DORMAN LONG

CLODIN MORTAR FOR WORK LIKE THIS . . .

Photo: H. Tempest Ltd. Cardiff.
Copyright: Clodol Industries Ltd.



Elwy Estate, Rhos-on-Sea, Denbigs. One of the most gracefully designed council schemes in Great Britain.

Contractors: Edward Jones, Ltd., Penmaenmawr.
Chartered Architect: S. Colwyn Foulkes, O.B.E.,
Hon. M. Arch., F.R.I.B.A.

CLODIN (MADE IN BRITAIN FROM BRITISH RAW MATERIALS ONLY)
THE DENSIFYING MORTAR—ADMIXTURE
FOR **PLASTICITY** COMBINED WITH **ADEQUATE STRENGTH**
AND **REAL ECONOMY** — BUT COMBINED WITH **SAFETY!**

IS THE PRODUCT OF

CLODOL INDUSTRIES LIMITED 37 LOVAINE PLACE NEWCASTLE-ON-TYNE 1

Telephone: NEWCASTLE 29941/29942 Telegrams: "CLODOL"



* **Check-out Counter** made by Rudduck & Co. (Shopfitters) Ltd., Old St., London, E.C. Tel.: CLE. 2116. Size 4'6" x 3'0" x 2'6" high, constructed in stout laminated timber, the top covered with No. PP19 maroon Perstorp relieved by black beaded edge, and the front covered with No. PP20 white Perstorp complete with recessed black skirting. The interior is fitted with pot-board and centre shelf polished light oak.

PERSTORP DISTRIBUTORS: London & Home Counties C. F. Anderson & Son Ltd. Harris Wharf, Graham Street, London, N.I. Geo. E. Gray Ltd. Joinant House, Eastern Avenue, Ilford, Essex. Heaton Tabb & Co. Ltd. Cobbold Road, N.W.10. West Country & Wales Channel Plastics Ltd. Flowers Hill, Brislington, Bristol 4. Midlands & Area Rudders & Paynes Ltd. Chester Street, Aston, Birmingham 6. N. E. England A. J. Vvares Ltd. King Street, South Shields. N. W. England Heaton Tabb & Co. Ltd. 55 Bold Street, Liverpool 1. Scotland Nevill Long & Co. (Boards) Ltd. Rivaldsgreen, Linlithgow, West Lothian. N. Ireland John McNeill Ltd. 109 Corporation Street, Belfast.

With Perstorp, a very real and successful attempt has been made to produce colours and finishes to gladden the hearts and sensibilities of modern designers and architects—balanced, assured, clean . . . not glossy yet not matt. This can be attributed to the fact that Perstorp, the original plastic laminate, is produced in Sweden, and the Swedes are nothing if not contemporary.

So when you require an extremely high-quality plastic laminate, suitable for both horizontal and vertical surfaces . . . simple to cut, shape and apply, and, once in place, there for ever . . . specify Perstorp. It is immune to ill-treatment, heat and grease and the least expensive of the better plastic laminates.

Swedish **PERSTORP**
The original Plastic laminate

Now available in a range of 'House & Garden' colours



37-67 BAKER STREET, LONDON, W.1.

THE METAL BOX COMPANY LIMITED.

MARKS AND SPENCER LIMITED.

Architects : T. P. Bennett & Son.

Contractors : Sir Robert McAlpine & Sons Ltd.



**Air Conditioning
Heating
Sanitation
by MATTHEW HALL & CO. LTD.**

THE
MATTHEW HALL

GROUP OF COMPANIES

EST. 1848



MATTHEW HALL

AIR CONDITIONING • HEATING • ELECTRICITY • SANITATION • SPRINKLERS & FIRE PROTECTION

MATTHEW HALL HOUSE, DORSET SQUARE, LONDON, N.W.1.

Glasgow
Cape Town

Manchester
Welkom

Bristol
Bulawayo

Belfast
Salisbury (Central Africa)

Johannesburg

Germiston
Ndola

Durban
West Indies



Fat cannot harm this floor

Peek Frean's new Fat Handling Arch at their Bermondsey factory has a floor of WHEATLY TRITON Lockjoint Quarries, jointed in Ancoroc F. Furane Resin Cement.

Work carried out under the instruction of Peek Frean's Chief Engineer's Department. General Contractors: Ashby & Horner. Specialist Tiling Contractors: Ancorite Ltd., London.

Where problems involving the handling of fat have to be contended with, such a floor provides the perfect answer at reasonable cost.

Full details, samples and prices sent on request. Specimens of Wheatly burnt clay products may be seen at the Building Centre, London. They include Single-lap Roofing Tiles, Ridge Tiles (blue and red), Floor Quarries, Air Bricks and Briquette Fireplaces.



W H E A T L Y & C O M P A N Y L I M I T E D

SPRINGFIELD TILERIES · TRENT VALE · STOKE-ON-TRENT · Telephone: NEWCASTLE (Staffs.) 66252 · Telegrams: WHEATLY, TRENTVALE



Huntley & Palmers
*... the first name you think of
 in Biscuits*

*Huntley & Palmers Ltd., Huyton, Liverpool.
 Architects: Messrs. Huckle & Durkin, London.
 Area of roof 14,000 square yards.*

BITUMETAL
*... the first name you think of
 in Roofs!*

To maintain their reputation as "the first name in biscuits" Huntley & Palmers demanded several essential features when roofing their new modern factory. The roof had to be insulated to effect fuel economy and maintain a constant temperature throughout the year—it had to be sealed against dust, soot and draughts and, of course, thoroughly weather-proofed. All these advantages plus freedom from maintenance can be found in Briggs "BITUMETAL", the modern aluminium roof, with the reflective ceiling.

Full technical details can be obtained from any of the undernoted offices.



WILLIAM BRIGGS & SONS LTD.

LONDON, VAUXHALL GROVE S.W.8. • REGD. OFFICE, DUNDEE

OFFICES AND DEPOTS ALSO AT :

ABERDEEN	• BELFAST	• BRADFORD
BRISTOL	• CARDIFF	• DUBLIN
EDINBURGH	• GLASGOW	• LEICESTER
LIVERPOOL	• NEWCASTLE	• NORWICH

FREE-STANDING WALLS AND WEATHERING

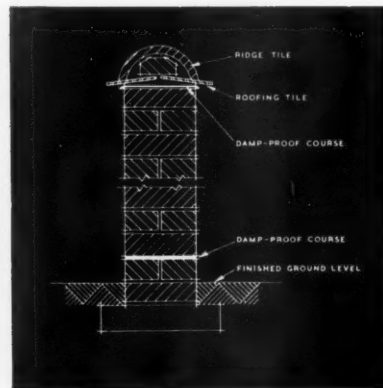
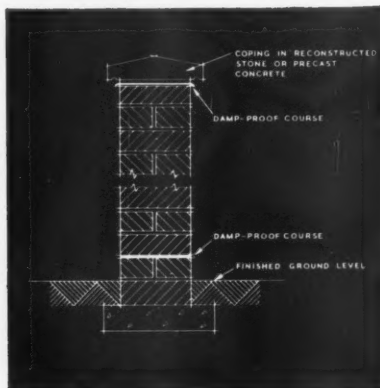
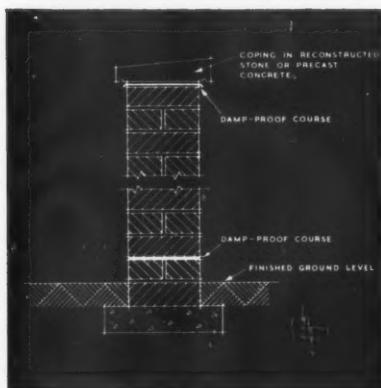


The top of a free-standing wall, such as a garden wall, is exposed to very severe weathering conditions. 'Phorpres' Fletton bricks are not suitable for this position.

If, however, a properly designed and well-constructed coping is provided, 'Phorpres' Flettons can be used in the body of the wall satisfactorily and economically.

Slade Green Road Housing Scheme for Crayford Urban District Council.

THREE ALTERNATIVE DESIGNS



...AND SIX IMPORTANT DETAILS

- The coping units should have a high frost resistance. Dense concrete or reconstructed stone are suitable.
- The coping units should be properly 'weathered' and should be provided with drip channels on both sides of the wall to shed the water clear of the wall faces.
- The drip channels must have sharp edges and be free from mortar or other obstructions. This is most important at joints between the coping units.
- However impervious the coping units may be, the

joints between them will not be impervious to the passage of moisture. Hence a damp-proof course should be provided immediately below the coping units.

- To reduce efflorescence to a minimum a damp-proof course should be provided immediately above ground level.
- A mortar mix of 1 part Portland Cement to 1 part Hydrated lime to 6 parts of sand (all by volume) should be used.



LONDON BRICK COMPANY LIMITED in the service of the building industry

Head Office: Africa House, Kingsway, London, W.C.2. Telephone: HOLborn 8282
Midland District Office: Prudential Buildings, St. Philip's Place, Birmingham 3. Telephone: Central 4141
South-Western District Office: 11 Orchard Street, Bristol 1. Telephone: Bristol 23004/5
Northern District Office: St. Paul's House, 20-22 St. Paul's Street, Leeds. Telephone: Leeds 20771



BY APPOINTMENT
TO HER MAJESTY
QUEEN ELIZABETH II
BRICK MAKERS



Once again, skirting heating by Crane



Metropolitan-Vickers' new Transformer Works at Wythenshawe are a model of modern factory building. The Reception Hall, illustrated here, is an example of the careful attention to detail observed throughout. The heating system here is both efficient and inconspicuous, for it is Crane Skirting Heating. This most modern of heating systems provides even warmth everywhere, no cold spots, no hot spots. The type used here is 9-inch RC (Radiant-Convector). There is also Type R (Radiant) which, as well as being made in the 6-inch size, has lately been made available in the 9-inch size for situations requiring additional heating surface. Both types are in 2-foot lengths and 1-ft. half sections. An important feature of Crane Skirting Heating panels is that they are made of cast iron and are therefore highly resistant to accidental damage. Skirting heating is the perfect modern way of heating any building.

Designed and installed by Ashwell & Nesbit Ltd. Manchester, in conjunction with Metropolitan-Vickers' Engineers' Dept.

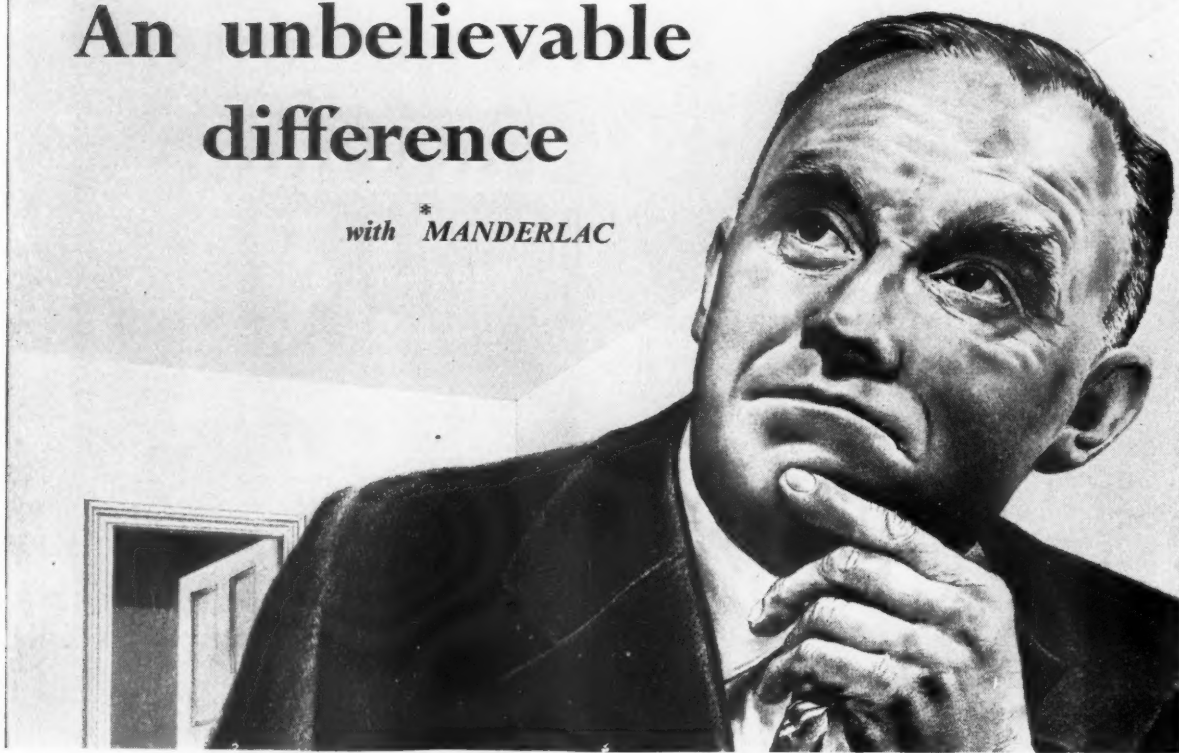
CRANE FOR HEATING EQUIPMENT

CRANE LTD., 15-16 RED LION COURT, FLEET STREET, LONDON, E.C.4. Works: IPSWICH
Branches: Birmingham, Brentford, Bristol, Glasgow, London, Manchester

B15

An unbelievable difference

with * **MANDERLAC**



A Manders case history



So easy to apply—looks wet when dry!

Manderlac Alkyd Enamel dries quickly to a hard surface that stays bright, keeping its protective powers for years. It covers well even on sharp edges.

MANDER BROTHERS LTD., DEPT. K5 · WOLVERHAMPTON Tel: WOLVERHAMPTON 20601

Branches throughout the Country

Council offices take on a New Look

A Lancashire Firm was appointed to paint the Office of a Local Council. A well known paint was specified for the private office and Manderlac for the main office.

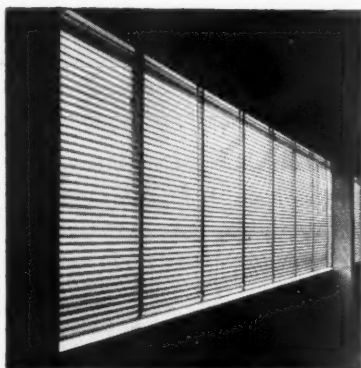
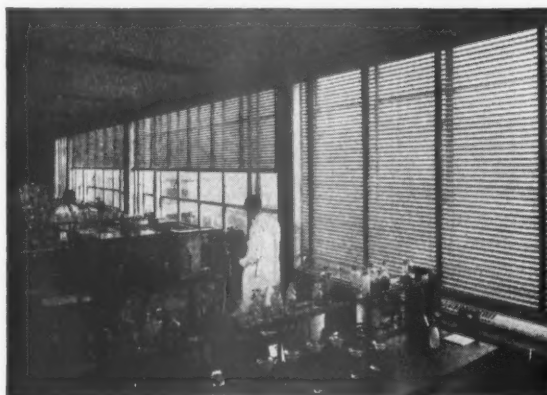
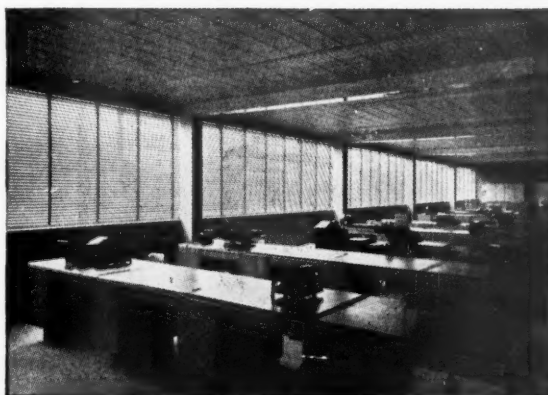
In the Painting Manager's own words "the same men, the same conditions but an unbelievable difference. I knew Manderlac was good but I had no idea that it was so much better than other paints. I shall certainly use Manderlac whenever possible."

** Ask for further information on this superb Enamel to be sent to you immediately.*

MANDERLAC

proved the best!

A new approach to the design and installation of Venetian Blinds



For far too long the many good points of venetian blinds have been overshadowed by unreliability and difficulties of installation. The Crittall Solomatic has been designed to solve these problems.

Its outstanding points are these:

- 1 *There are no cords to dangle, tangle or wear - one single control (single strap, double strap or gear) tilts the slats as well as raising or lowering the blind.*
- 2 *Uneven lowering is made impossible.*
- 3 *A double-cross web ladder tape prevents flutter.*

Every Solomatic blind is made to measure so that it belongs to the window - is not just a patchwork addition to it. Crittall are fully equipped to provide a complete planning and installation service for an entire building - new or old. Write for leaflet.

CRITTALL Solomatic VENETIAN BLINDS

-made to measure and made to last



THE CRITTALL MANUFACTURING COMPANY LIMITED • BRAINTREE • ESSEX • Branches and Depots throughout the country

TSW/91



BURMA PHARMACEUTICAL INDUSTRIES, RANGOON
James Cubitt & Partners, Architects

HOPE'S SUN-BREAKERS

also

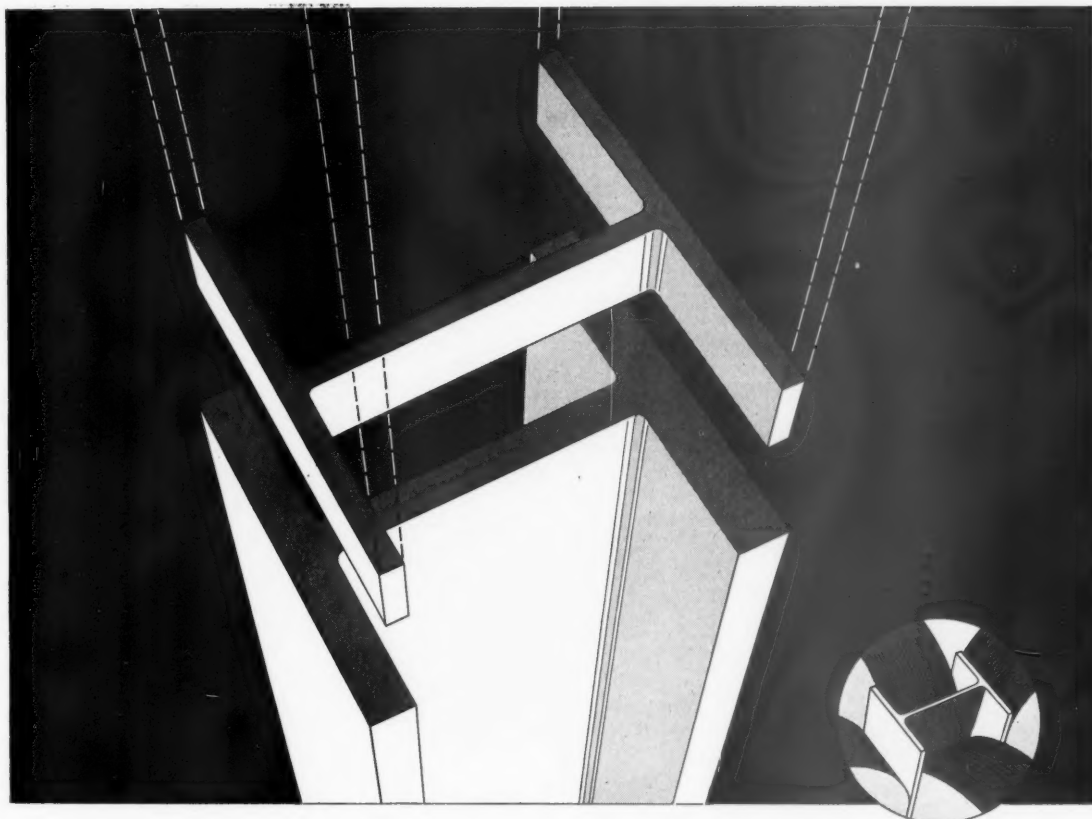
PRESSED METAL WINDOW WALLS
 VERTICAL ALUMINIUM PATENT GLAZING
 STEEL DOORS AND INTERNAL SCREENS
 SKYLIGHTS AND WINDOW GEARING

HENRY HOPE & SONS LTD

Smethwick, Birmingham & 17 Berners Street, London, W.1

AGENTS THROUGHOUT THE WORLD

MEMBER OF THE METAL  WINDOW ASSOCIATION



Each section best for its purpose

Our Universal Beam Mill makes available a full range of new and important beams and column sections, some having wide flanges.

The mill produces—without changing the rolls—complete 'families' of related sections such as are advantageous for the columns of multi-storey buildings. The illustration shows two of a range of such sections; the flange thickness can be altered as shown by adjustment of the rolls, while the inside surfaces remain practically unaltered.

New large beams are available in different weights.

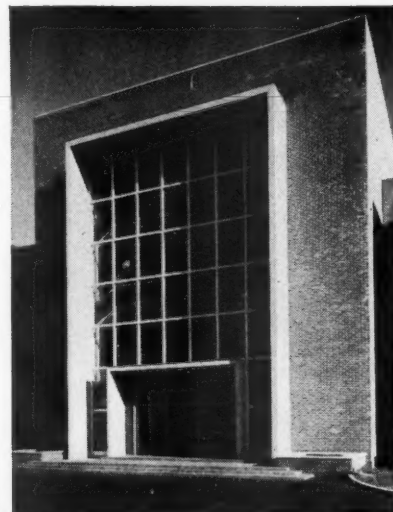
These new beams and columns are already leading to substantial economic and other advantages.

Diagram showing the arrangement of the rolls, which are adjustable to control the flange and web thickness. Other rolls, not shown, size the edges.

EARLY DELIVERY OF THE FULL RANGE OF SECTIONS

DORMAN LONG

Entrance detail
The projecting canopy
is fairfaced in-situ
reinforced concrete
poured in 3 lifts



Front elevation

NEWPORT AND MONMOUTHSHIRE COLLEGE OF TECHNOLOGY

Principal: F. W. R. Harrison, J.P., B.Sc., M.I.Mech.E., M.I.Mar.E.

Architect: Sir Percy Thomas & Son, P.P./A.R.I.B.A.

The Demolition & Construction Co. Ltd.

BUILDING, CIVIL ENGINEERING & PUBLIC WORKS CONTRACTORS



**LONDON
CARDIFF
LIVERPOOL
NEWCASTLE-ON-TYNE**



Glamorock used to gay effect on the Classic cinema, Chelsea. Architects: Doughton & Hurst. Contractors: W. Phillips & Son Limited

GLAMOROCK TRANSLATES THE CLASSIC

into a modern building of unusual beauty and distinction

Perhaps you've read or heard already that Glamorock is an entirely new facing medium for interior and exterior walls . . . that, being natural stone, it possesses all the beauty and weather-resistant qualities of a natural product . . . yet with outstanding economy and ease of application . . . that it will not craze or peel . . . that it resists dirt or smog . . . and that none of its 22 natural colours can ever fade, whether they are used separately or in any of an infinite number of exquisite colour blends.

Now, Architects, Designers and Contractors all over the country are proving these facts for themselves.

The transformation of the Classic cinema, Chelsea, is only one example of the way Glamorock is starting to change the face of Britain's buildings.

Please write for fully-detailed colour brochure

Please contact either :—

GLAMOROCK LIMITED, Monza Street, Wapping, London, E1. Royal 6785/6 or

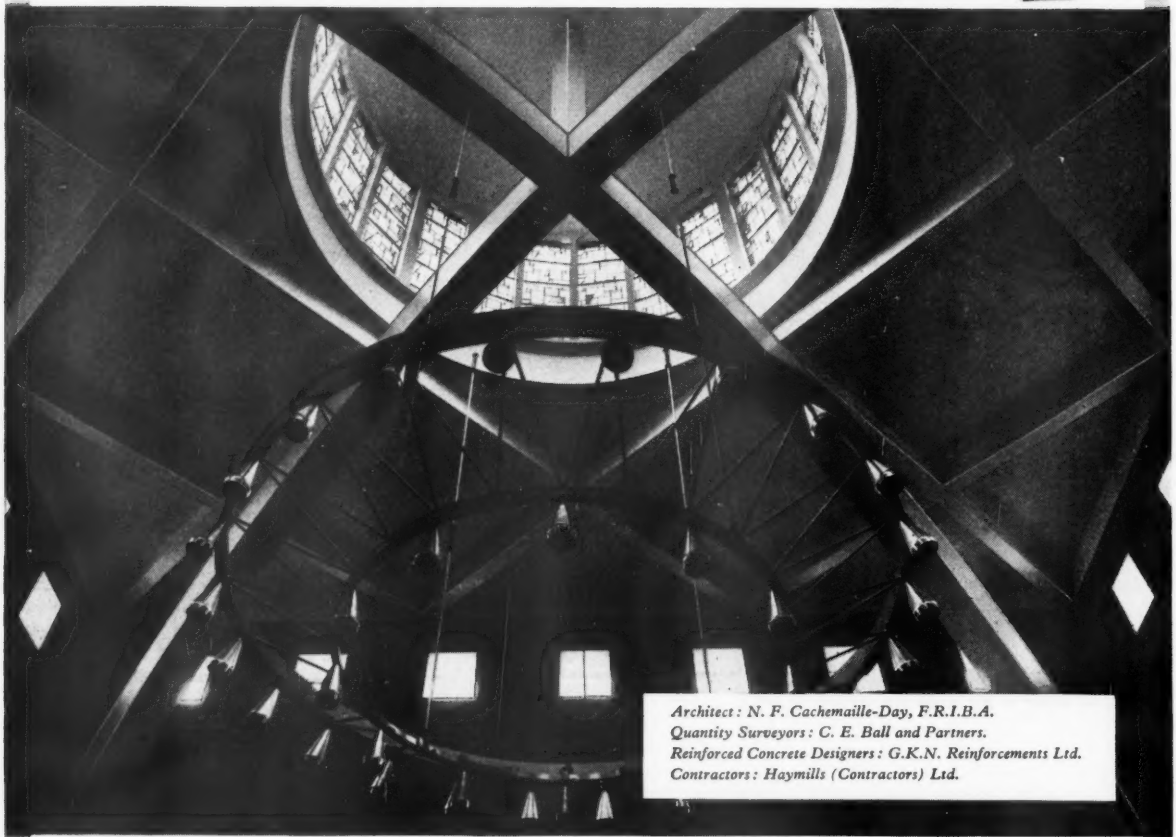
Montague L. Meyer Ltd. (Branches in principal cities), 14, Buckingham Street, London, WC2.

Surface Protection Limited, 28, South Street, London W1.

Think in terms of GLAMOROCK

scintillating natural stone facing

DESIGNS IN CONCRETE 2



*Architect: N. F. Cachemaille-Day, F.R.I.B.A.
Quantity Surveyors: C. E. Ball and Partners.
Reinforced Concrete Designers: G.K.N. Reinforcements Ltd.
Contractors: Haymills (Contractors) Ltd.*

THE NAVE OF ALL SAINTS CHURCH, AT HANWORTH IN MIDDLESEX

The present day tendency in church planning is away from the long Gothic building towards a Byzantine type of plan. Here is an example of what can be achieved by collaboration between the Architect and Structural Engineer in the use of Reinforced Concrete.

Two slender arches span diagonally across the nave, supporting a ring beam and the lantern above. The roof is of beam and slab construction, the beams spanning diagonally from the ring beam to the walls.

If you want to put steel into concrete
get in touch with

G.K.N. Reinforcements Ltd.

(FORMERLY TWISTEEL REINFORCEMENT LTD.)

197 KNIGHTSBRIDGE, LONDON, S.W.7 (KENSINGTON 6311)

SMETHWICK, BIRMINGHAM: Alma Street, Smethwick 40, Staffs. (Smethwick 1991) MANCHESTER: 7 Oxford Road, Manchester 1 (Ardwick 1691) GLASGOW: 30 Pinkston Road, Glasgow C.4. (Bell 2444) MIDDLESBROUGH: Dundas Chambers, Dundas Meus, Middlesbrough (Middlesbrough 3843) CARDIFF: 113 Cathedral Road, Cardiff (Cardiff 45220) BRISTOL: 16 Clare Street, Bristol (Bristol 21555) LEICESTER: Northampton House, Charles Street, Leicester (Leicester 25114)
Works: CARDIFF, SMETHWICK, WIGAN & GLASGOW

The attributes of beauty..

*"properties gracefully combined in an
object so as to please or attract
the senses, especially the eye..."
a true description of the Mark 12 Door.*



The Mark 12 lattice core
flush door has looks as well
as endurance. It is veneered
both sides with *West African
cedar and is lipped on all four
edges.

*West African cedar . . .
produces superb veneer,
warm brown in colour;
the attractive figure
being fully brought out
by careful matching-up
at our factory.

We think you will
be surprised at the low
cost of this attractive door.
Write today for price list.

Guaranteed for 3 years

Gliksten Doors

Cheapest in the long run—the best



Gliksten Doors Ltd., Carpenters Road, Stratford, London, E.15 Tel: Amherst 3300
Liverpool Office: 87, Lord Street Tel. Central 3441



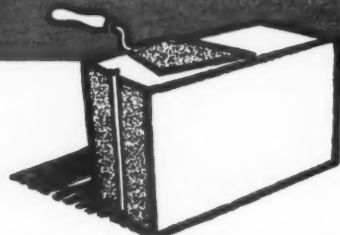
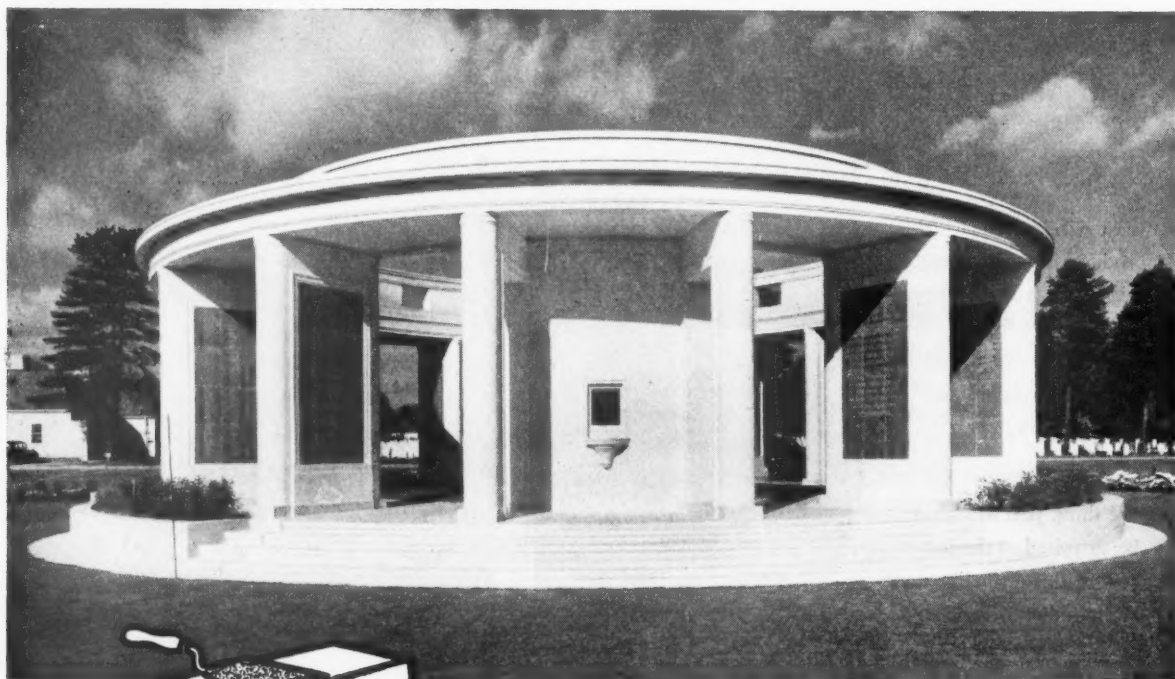
MEMORIAL BUILDING, BROOKWOOD

Military Cemetery for Imperial War Graves
Commission

ARCHITECT: R. Hobday, A.R.I.B.A.
Senior Architect to the Imperial War Graves
Commission.

CONTRACTORS: E. H. Burgess Ltd.

Stone for Stability



PORTLAND STONE

Supplied and fixed by
THE BATH & PORTLAND STONE FIRMS LTD
Head Office: BATH. Telephone 3248

LONDON
VICtoria 9182

PORTLAND
2276

GLASGOW
Bridgeton 2408

DUBLIN
51018

LEEDS
25971

LIVERPOOL
ROYal 6501

BELFAST
31444



THE

Britannic

FLOOR SPRING

The "Britannic" is of very sturdy construction and designed to control doors weighing up to 250 lbs. It allows the doors to be pushed open through an angle of 90° both ways. Exposed parts finished in polished brass or B.M.A. chromium plated.

William Newman & Sons Ltd.

SEE OUR EXHIBITION AT THE BUILDING CENTRE, 26, STORE ST., W.C.1.

HOSPITAL STREET, BIRMINGHAM, 19

Established over 200 years

*a living tradition of
craftsmanship*



The art of carving in wood achieved most beautiful expression in Japan and China where it was practised as early as the 8th century. Today, though craftsmen are fewer, Maple Martyn employ men who have proved their right to that name. They are craftsmen with all the necessary skill and experience, daily engaged in producing handsome wood carvings for a variety of ornamental purposes. Here a modern company is working with the individual craft which marks this traditional industry. Its distinctive workmanship is currently decorating ships, churches, palaces, public buildings and private residences throughout the world. Maple-Martyn are also specialists in furnishing, constructional woodwork, architectural metalwork, carving in stone and fibrous plaster.



CONTRACT DEPARTMENT:

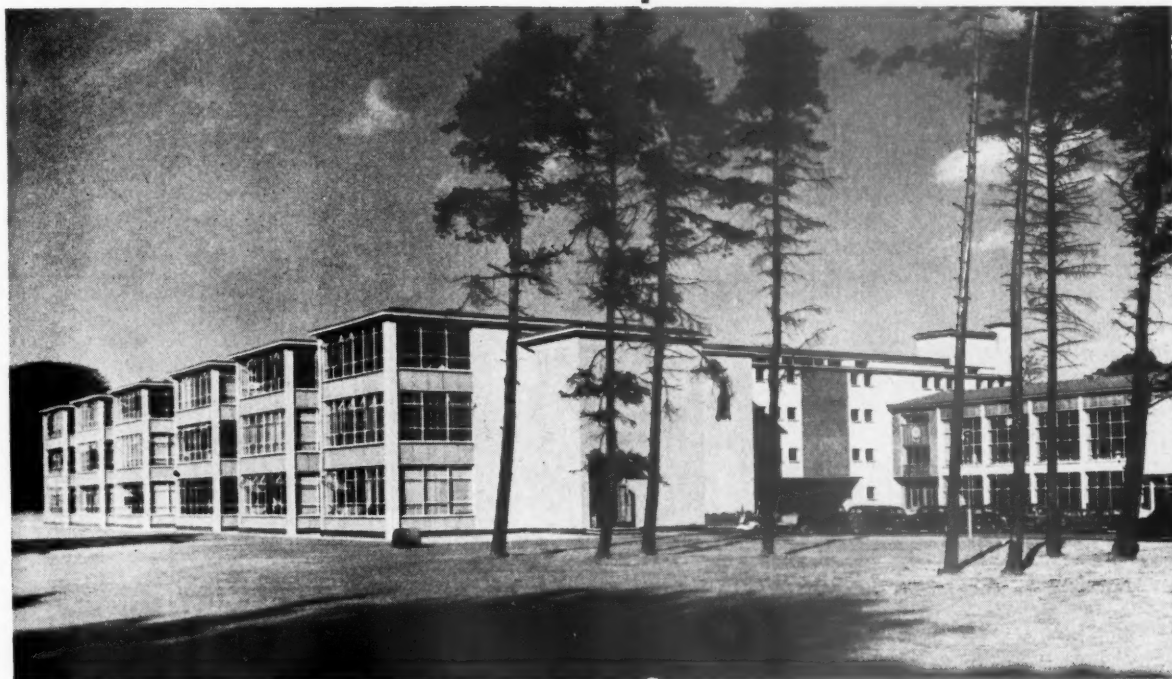
Maple & Co. Ltd., Tottenham Court Road, London, W.1
in association with its subsidiary H. H. Martyn & Co. Ltd., Cheltenham.
(The MAPLE MARTYN service is also available through the contract
department of ROBSONS, 42 Northumberland St., Newcastle and
RAY & MILES, London Road, Liverpool.)

MC60

*Architect: R. S. Lawrie, Esq., A.R.I.B.A., A.M.T.P.I.,
A.R.I.A.S. County Architect, Fife County Council.*

Main Contractor: Messrs. Whatlings Ltd., Glasgow.

Joinery Contractor: Alex. B. Cant, Esq., Dunfermline.



ROYAL FLUSH
REGD. TRADE MARK 702502
DOORS

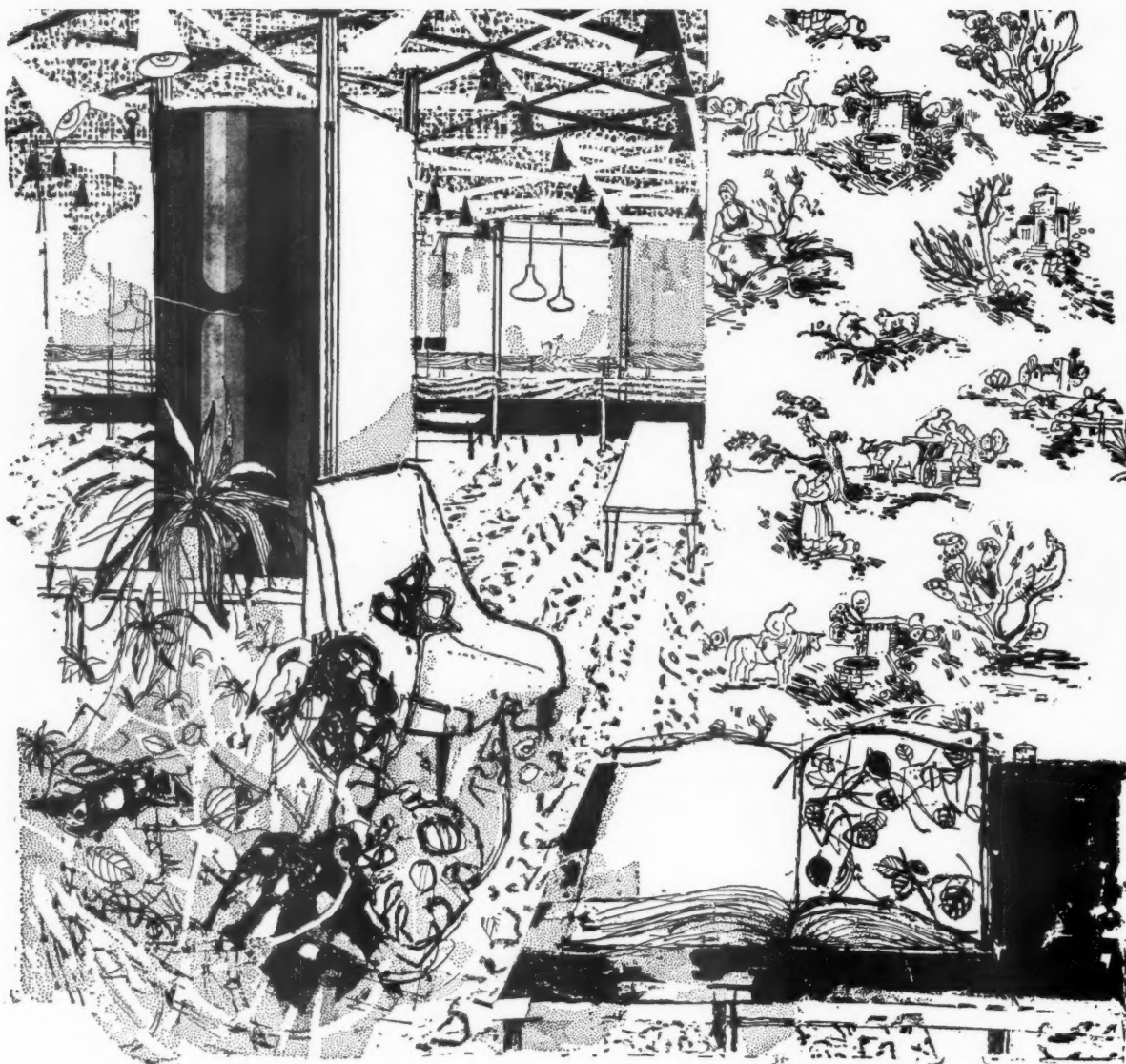
by

SOUTHERNS
LIMITED

Outstanding buildings need reliable and attractive doors and here at the new Kirkcaldy High School the obvious choice of Southern's Royal Flush doors has been made. 233 single doors and 63 pairs of doors will withstand the daily hard wear of school life and maintain their excellent appearance for many, many years.

Head Office — BOLD SAW MILLS • WIDNES

Branches at: LONDON • GLASGOW • MANCHESTER • DUDLEY • HANLEY • BRISTOL • KETTERING • BIRMINGHAM



WPM MORTIMER STREET

The Architects' Department, formerly at 125, High Holborn, W.C.1, has been reopened in the Company's new London premises at 19/21, Mortimer Street, W.1. You are invited to visit our spacious showroom on the 1st Floor and to make use of the improved facilities of our special advisory service. Our artist Jane Shannan depicts Haywards wallpaper "Jouy" No. 544. Palladio Magnus "Digitus" (Left)

FOR ARCHITECTS CONCERNED WITH
THE SPECIFICATION OR DIRECTION
OF DECORATIVE SCHEMES

THE ARCHITECTS' DEPARTMENT
THE WALL PAPER MANUFACTURERS LIMITED
19/21 MORTIMER STREET LONDON W1
OR KING'S HOUSE KING STREET WEST MANCHESTER 3





Architects: Messrs. Farmer and Dark, F/R.I.B.A.

New Central Research Laboratories and Engineering Division for The Bowater Paper Corporation Limited

Part of the extensive developments on the Thames Mill Site at Northfleet, Kent, of The Bowater Paper Corporation Limited, are the Central Research Laboratories and Engineering Division blocks. These have a combined floor space of 55,000 sq. ft. served by a common entrance hall (illustrated). The structures are based on a module of 3 ft. 4 in. in all planes, with a framework of light welded steel and lightweight metal decking roof. Walls are almost entirely of glass with stainless steel trimming, and colour variation is obtained by asbestos panels set behind. Floors are in 2-in. precast concrete and acoustic ceilings accommodate recessed lighting, heating and ventilation grills. The colourful interior decoration combines individuality with breadth of design, while the exterior preserves the unity of the neighbouring production buildings.

THE CUBITT GROUP OF COMPANIES
UNITED KINGDOM AND OVERSEAS

With the experience of the past

CUBITTS

build for the future

HOLLAND & HANNEN AND CUBITTS (GREAT BRITAIN) LTD. • ONE QUEEN ANNE'S GATE • LONDON • SW1

TGA C243

BRODERICK INSULATED FELT ROOFING

(PREFABRICATED)

A NEW ECONOMY FOR PITCHED ROOFS OF
SCHOOLS, HALLS, CHURCHES, HOUSES, HOSPITALS, etc.



AMBERSTONE HOSPITAL HELLINGLY, SUSSEX

For the South East Regional
Hospital Board

Architects: GOTCH & PARTNERS
London & Brighton

Architect in charge:
J. Forbes-Nixon, A.R.I.B.A.

BRODERICK INSULATED FELT
ROOFING AND TRUSSED RAFTERS
AT 22½ deg. PITCH

**IDEAL WHERE LOW FIRST COST, GOOD
APPEARANCE AND LOW MAINTENANCE
ARE ESSENTIAL**

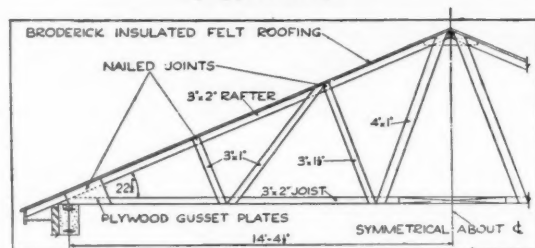
Load-bearing insulating panels are factory covered with heavy mineral-surfaced felt under controlled conditions which ensure a high standard of work and eliminate risk of entrapped moisture. We design, fabricate and erect complete, including our trussed rafter timber roof framing which is economic for spans up to well over 40 feet. Particularly convenient for halls, school extensions, etc. in country districts.

**GUARANTEED FREE OF MAINTENANCE
FOR 5 YEARS**

We shall be pleased to submit a scheme and estimate for any suitable job on receipt of drawings.



Laying pre-felted panels.



Nailed trussed rafters used at Hellingly.

Fully illustrated folder free on request

BRODERICK INSULATED STRUCTURES LTD.,
HERMITAGE ROAD, WOKING, SURREY.

Telephone: Brookwood 2266



THE JOURNAL OF THE ROYAL INSTITUTE OF BRITISH ARCHITECTS

66 PORTLAND PLACE LONDON W1

Telephone: LANGHAM 5533

Tel.grams: RIBAZO WESDO LONDON

MAY 1959

THIRD SERIES VOL. 66 NUMBER 7 THREE SHILLINGS AND SIXPENCE

EDITORIAL

Mr. C. H. Aslin

The JOURNAL records with great regret the death on 18 April of Mr. Charles Herbert Aslin, C.B.E., Past-President.

F.L.W.

Mr. Frank Lloyd Wright [*Hon. Corresponding Member, U.S.A.*], Royal Gold Medallist, 1941, died in Phoenix, Arizona, on 9 April, at the age of 89.

Can any of us say that he heard the news of Frank Lloyd Wright's death without emotion?

One of the two great personalities who have dominated the architectural scene as long as most of us can remember has gone. Even the man in the street will understand that. The effect his work had upon young architects up to the end can be read in the paper by Mr. Keith Scott in the April JOURNAL. It was the kind of tribute he would have wished.

F.L.W. showed that an architect could become a world figure. His buildings were seldom overtaken by time, and his oracular sayings or uninhibited criticism were always news.

His life and works have been fully documented, but what his influence will be on the main stream of architecture cannot be assessed with any certainty, except to say that each successive generation of architectural students regarded F.L.W. and Corb as architects who had grown to their fullest stature. If these two could, so perhaps might they.

Each new building was another achievement in his extraordinary, egocentric and vital career. What a life he had!

Sir George Pepler

The JOURNAL records with regret the death of Sir George Pepler, C.B., F.R.I.C.S., P.P.T.P.I. [*Hon. A.*], on 13 April at the age of 77. Sir George who was President of the Town Planning Institute in 1919 and 1949, was the first recipient of the gold medal which is that Institute's highest honour.

The Villa Savoye, Poissy

The Council, at their meeting on 7 April, with the Hon. Lionel Brett, Vice-President, in the chair, gave approval to the action taken in sending a telegram to the French Ministry of Cultural Affairs asking for their good offices in preventing the proposed demolition of Le Corbusier's Villa Savoye built at Poissy, 1928-30. Other notes from the Minutes of the Council appear on page 256.

Appointment of Chief Architect in the Ministry of Health

The Minister of Health has appointed Mr. W. E. Tatton Brown, M.A.(Cantab.), A.A.Dipl., A.M.T.P.I., [A] Deputy County Architect of Hertfordshire to be Chief Architect in the Ministry of Health. This is a new post following the decision that the Ministries of Health and Housing and Local Government should have separate architectural establishments.

Mr. Tatton Brown, who is 48, has been with Herts. County Council since 1948.

As the Ministry's Chief Architect, Mr. Tatton Brown will take charge of the staff engaged on examining building schemes, of hospital boards and local health authorities. He will also be responsible for a Design Unit. This is being considerably expanded with the aim of providing up-to-date ideas and guidance to hospital authorities and architects on the planning and design of hospitals and other Health Service buildings.

A Second Professorship in Architecture at Newcastle

The University of Durham has appointed Mr. J. H. Napper, M.A., A.M.T.P.I. [F] to a Professorship of Architecture, personal to himself, and tenable in the Newcastle Division as from 1 April 1959.

Mr. Napper is President of the Northern Architectural Association and a member of the Council of the R.I.B.A. He is joint author with Professor Cassie of *Structure in Building*.

In addition to his normal duties at the University, Professor Napper will direct the postgraduate research at the Newcastle School of Architecture.

First Yerbury Foundation Lecture

The first lecture to be sponsored and organised by the Yerbury Foundation will be on 'Mechanical Services and Architecture' and will be given by the distinguished Danish engineer, Jorgen Varming who collaborated with Bjorn Utzon on the latter's prize-winning design for the Sydney Opera House.

The meeting will be held at the T.U.C. Building, Great Russell Street, London, W.C.1. at 6.30 on Wednesday 20 May. Admission is free and by ticket.

Applications for tickets should be made to the Hon. Secretary, The Yerbury Foundation, 36 Bedford Square, London, W.C.1.



Mr. Charles Eames giving the Annual Discourse

The Future of the Regent's Park Terraces

A Second Statement on the Future of the Regent's Park Terraces was published* by the Crown Estate Commissioners on 19 March and is mainly a report on the progress which has been made in developing the policy set out in the first report of November 1957. The Royal Fine Art Commission has expressed its general sympathy with the latest proposals which it considers will give new life to the Nash Terraces.

There is one problem to be resolved on which the Commissioners would be glad to have the views of the architectural profession. This concerns York Terrace where the retention and restoration of the existing Nash façades while the buildings behind them are reconstructed for present use might well cost about £90,000 more than complete demolition and replacement of the façades by exact replicas in modern materials. This particular terrace is not of the same architectural merit as the others. Is the extra expense of keeping the original façade justifiable?

Cost Control Conference, Bristol

A further conference on methods of the control of building costs at the design stage is to be held at Wills Hall, Bristol, from 2 to 4 July under the sponsorship of the Cost Research Liaison Committee of the R.I.B.A. and R.I.C.S. The Conference will be on the same lines as the Cost Control Conference held at Great Missenden in January, with most of the original speakers. The list of speakers and their subjects is given on page 239. The conference arrangements are being made jointly by the R.I.B.A. and the Bristol and Somerset Society of Architects.

* H.M.S.O. price 9d.

Charles Eames

The show of films made by Mr. Charles Eames given at the R.I.B.A. on the evening before he gave the Annual Discourse attracted almost as many people as last year's A.G.M., and they were rewarded with nine short films of a technical quality and invention of the highest order.

The Discourse also filled the house; the President, tanned by the sun of Africa, was in the Chair.

'I do not think there is anybody whom we have been lucky enough to attract to give this Annual Discourse who has expressed himself so lucidly and with such charm', said Sir Hugh Casson in his vote of thanks.

The Discourse was recorded, and will be published in the JOURNAL later in the year.

The 1959 Budget and Investment Planning

The general tone of the Budget for 1959 was encouraging for the building industry. The Chancellor laid emphasis on the need for a continuing high rate of industrial investment to allow for the future expansion of production, and announced the restoration of investment allowances to encourage firms planning extension or modernisation schemes to put them in hand now rather than later. However, the direct stimulus of the investment allowance to industrial building is long-term in the extreme—when compared with the previous initial allowances, the effect will not be felt for more than forty years! An explanation of how the allowance works, with an example applying to an industrial building of £100,000, is given on page 254.

The Chancellor's attitude in his Budget speech towards the planning of investment showed a curious inconsistency. On the one hand, talking about the long-term investment programmes in the public sector, he made the welcome point that it was not realistic to suppose that these programmes could be rapidly varied up and down in accordance with the state of trade and the need to raise or lower the general level of demand from time to time. This is a view which the Institute has been pressing on the Government for many years, and which was supported by the evidence collected in the Institute's Building Timetable inquiry showing the time which a building project may take to mature.*

On the other hand, talking about the investment allowances, the Chancellor warned that in different conditions such a special stimulus might no longer be justified. This seems to imply that these long-term measures of encouragement to private investment can be turned on and off like a tap and still have the required effect. Surely there is the same need for private industry to be able to plan its investment programmes for a reasonable period ahead as for the public sector? Without this, architects and builders who serve manufacturing industry cannot hope to achieve a proper efficiency of working.

Exhibition of Chinese Architecture

The Chinese Exhibition has now arrived in this country and it will be presented at the R.I.B.A. early in July and not in June as previously announced. This later showing will mean that it will remain on view for a longer period and will therefore allow more people to visit it.

* R.I.B.A. Journal of August 1958.

H. B. Creswell at 90

The JOURNAL offers its congratulations and best wishes to Mr. H. B. Creswell [Retd. F] who will be 90 on 18 May.

The author of *The Honeywood File* describes himself today as 'a hale old rheumatically deaf man on a stick, for lack of which he would have to go down on his knees like a gorilla'. There is much more to him than that, as readers of the ARCHITECTURAL REVIEW for December 1958 may recall.

How did the idea of *The Honeywood File* come to him? In his own words¹:—

'You may be interested to know that my "Technical Fictions", and much else, came about by [Christian] Barman's predecessor on the A.J. asking me to contribute on the strength of novels written during War I; and for a year and more I did a page "Joking Apart" once a fortnight under the pseudonym of "Karshish" in which I beat a dead horse—as it has proved. When Barman took over he asked for something different, and I did a short series: "Tribulations of Early Practice". Then "What Next"? I had no idea till Humphrey Carver, at A.A. School, came to my office and, while I was signing letters, began reading in my correspondence files and I found him enthralled. So the notion of a fiction file hit me. I saw Barman. He was "on" and said "An architect's Folder?" "No!" I said—"just the name of a house—"Honeywood". (Nothing in my mind but the sound.) One of the Directors was present. He said "Honeywood Folder". I made it "File". I had been tickled by a bogus file ridiculing Government office files sold on bookstalls, and that gave me the root idea, perhaps.'

Technical Films

The November editorial included a note on technical films and following the interest aroused the Film Sub-Committee of the Public Relations Committee arranged a meeting recently with representatives of trade associations, film producers, film users, film press, architectural press and others interested in technical films, to discuss the matter. The report of the meeting appears on page 253.

The Function of the Architect in Society

The first of three week-end conferences organised by the British Architectural Students' Association was held at Trinity College Cambridge on 4 and 5 April, and was attended by about 150 students and architects.

B.A.S.A. is to be congratulated on its initiative in bringing together students, practitioners and clients. It was well worth it.

On the Saturday and Sunday morning age and experience held the floor, but on Sunday afternoon the atmosphere of the Union (itself a distinctly Non-U building) communicated itself to the students and the discussion was outspoken and healthily controversial, much of it in reaction against what they had heard about All-in Services. It appeared from the applause given to speakers who were out for 'creative architecture' that the clients the students wanted were those who could commission just that.

The discussion ranged far and wide, and there is much to be said for Mr. Eric Lyon's proposal that at the next two

conferences there should be a preliminary day for exchange of ideas—a warming up—before getting down to the Sessions proper. The same speaker also made the suggestion that architects, at the time of qualification, should take an oath comparable to the Hippocratic oath that doctors have to swear, dedicating themselves to a life of professional integrity. Mr. Jeremy Mackay-Lewis [Student] was a commendably imperturbable chairman.

Symposium—The Living Town, and Spur Exhibition

There are still some tickets available for the one-day Symposium on Replanning and Renewal to be held at the R.I.B.A. on Friday 22 May.

Tickets are £1 (£1 5s. with packed lunch) and are available from the Secretary, R.I.B.A.

The Symposium will start at 10 a.m. and end at approximately 5.30 p.m. The programme is as follows:

10–12.45 p.m. *Conditions in our Towns and Cities*, by Mr. P. E. A. Johnson-Marshall [A]; *Experience in Practice*, by Mr. Peter Chamberlin [F], Mr. Arthur Ling [F] and Mr. D. E. Percival [A]. 2–5.30 p.m. *Urban Sense*, by Sir Hugh Casson [F]; *The Future*, by Professor Robert Matthew [F], and Mr. Hubert Bennett [F]. Mr. Richard Edmonds of the L.C.C. will introduce the general discussion and the Hon. Lionel Brett [F] will summarise the meeting. Sir William Holford [F] will take the Chair.

The Symposium will be supported by an exhibition in the Florence Hall, designed by members of the Society for the Promotion of Urban Renewal with the collaboration of the R.I.B.A., the Civic Trust and leading firms in the building industry.

The Exhibition will be opened by the President, Mr. Basil Spence, on Thursday 21 May and will remain open until Saturday 6 June.

Both the Symposium and the Exhibition are concerned with past shortcomings in Urban Renewal and with practical suggestions for the removal of these shortcomings.

Change in the Programme of Meetings

In place of the discussion on Professional Status which was to have taken place on 16 June, the President, Mr. Basil Spence, O.B.E., A.R.A., A.R.S.A., will talk about his recent tour in Africa and will show some coloured slides he took during his visit. It is hoped to arrange for a paper on professional status early next session.

R.I.B.A. Diary

SATURDAY 16 MAY–MONDAY 18 MAY inclusive. R.I.B.A. offices and library closed for Whitsun holiday.

FRIDAY 22 MAY, 10 a.m.–5.30 p.m. *The Living Town: A Symposium on Replanning and Renewal*.

FRIDAY 22 MAY–SATURDAY 6 JUNE. The SPUR Exhibition in the Henry Florence Hall. MON.–FRI. 10 a.m. to 7 p.m.; SAT. 10 a.m. to 5 p.m.

TUESDAY 26 MAY, 6 p.m. General Meeting. Presentation of Royal Gold Medal, 1959, to Professor Mies van der Rohe, F.A.I.A. [Hon. Corresponding Member, U.S.A.].

TUESDAY 16 JUNE, 6 p.m. General Meeting. Council Election Results. Talk by the President, Mr. Basil Spence [see above].

FRIDAY 19 JUNE, 8.30 p.m. to 1 a.m. A.B.S. Midsummer Ball. Tickets still available, 25s. each, from A.B.S. offices.

¹ In a letter to the Editor, R.I.B.A. JOURNAL.

R.I.B.A. Members' Luncheon Room

Members are reminded that with the completion of the top storeys of No. 66 Portland Place, a new Members' Luncheon Room has been opened on the sixth floor. It is being run on a self-service basis, and the price of luncheon is 5s. The Luncheon Room is open to members, Students, and their guests between the hours of 12 noon and 2 p.m. on Mondays to Fridays inclusive.

Arrangements are being made for the acceptance of luncheon vouchers from members and Students in salaried employment whose employers issue vouchers.

The second floor Members' Room, used in recent years as a canteen, is in the process of being redecorated, and will soon be opened as a Members' Lounge where there will be tea and bar facilities. In the meantime, members wishing for afternoon tea can order it from the sixth floor Luncheon Room.

Architects' Fees for Work in Connection with Private Housing Development

IN JULY 1957, the R.I.B.A. Council approved an interpretation of the R.I.B.A. Scale of Professional Charges which might apply in cases where architects were asked to perform limited services in connection with the design of small private houses. The approved scale for this purpose was aimed at meeting two different types of case: (i) where such limited architectural services were required by individual owners of private houses; and (ii) where limited architectural services were required by builders for small private housing development.

The Federation of Registered House Builders having represented to the R.I.B.A. that builders may wish to make use of a more extended architectural service than was contemplated in the second part of the scale approved in 1957, the R.I.B.A. Council in January 1959 have approved the scales set out below. The Council in approving these scales wish to emphasise that the services offered are of a limited nature only and cannot be regarded as a substitute for full architectural services.

The scales (except in Paragraph A.1) are based on the freehold selling price to the public of the houses as being the most convenient method, and the percentages mentioned are adjusted to be an interpretation of the normal R.I.B.A. Scale to meet the type of service set out therein, taking into account the element of repetition. The scales contemplate several different degrees of service, any one of which may be sought by a builder. The first of such degrees (set out in Paragraph A.1) embraces those services already provided in respect of repetitive work under the 1957 arrangement and provides for fees at the existing rate; the other degrees are progressions from that stage. The final degree covers full architectural services under the R.I.B.A. Scale of Professional Charges, apart from supervision. Full supervision and other additional architectural services which the builder might require would attract further fees as set out in Paragraph D.

A. Minimum Special Services

1. Fees for small private enterprise houses not exceeding 1,000 sq. ft. in area, excluding outbuildings (the 1957 scale)

For preparing $\frac{1}{8}$ in. scale type plans and 1/500th scale layout, together with drawings and particulars sufficient to enable application to be made for Town Planning, Bye-law and/or Building Act approvals:—

Fee for each house type design	£45
Royalty per house for repeats of type designs	£8
Layout fee per house	£2

2. Fees for private enterprise houses exceeding 1,000 sq. ft. in area

For preparing $\frac{1}{8}$ in. or $\frac{1}{4}$ in. scale type plans and 1/500th scale layout, together with drawings and particulars sufficient to enable application to be made for Town Planning, Bye-law and/or Building Act approvals:—

Fee for each house type design.	2.0 per cent of selling price of one such house.
---------------------------------	--

Combined fee per house in respect of layout and of royalty for each use of a house type design.	0.4 per cent of selling price of each such house sold.
---	--

B. Limited Special Service for Private Enterprise Houses (All Sizes)

For preparing $\frac{1}{8}$ in. or $\frac{1}{4}$ in. scale working drawings, 1/500th scale layout and $\frac{1}{2}$ in. or 1 in. scale details of each house type, together with drawings and particulars sufficient to enable application to be made for Town Planning, Bye-law and/or Building Act approvals:—

Fee for each house type design.	3.0 per cent of selling price of one such house.
Combined fee per house in respect of layout and of royalty for each use of a house type design.	0.5 per cent of selling price of each such house sold.

C. Extended Special Service for Private Enterprise Houses (All Sizes)

For preparing $\frac{1}{8}$ in. or $\frac{1}{4}$ in. scale working drawings, 1/500th scale layout, $\frac{1}{2}$ in. or 1 in. details of each house type, and full working drawings, including street elevations, screen walls etc., together with drawings and particulars sufficient to enable application to be made for Town Planning, Bye-law and/or Building Act approvals:—

Fee for each house type design.	4.0 per cent of selling price of one such house.
Combined fee per house in respect of layout and of royalty for each use of a house type design.	0.8 per cent of selling price of each such house sold.

D. Optional Services extra to those set out above

The following services if required to be performed by the architect in addition to the services set out above will be the subject of additional fees as follows:—

- | | |
|---|---|
| (a) Design of and preparation of working drawings for roads. | 0.15 per cent of selling price of houses served by the road. |
| (b) General supervision of the whole contract where the architect is engaged by a developer other than a builder. | 1.0 per cent of the aggregate of the selling price of all the houses on the estate erected to the architect's type designs. |
| (c) Consultative supervision by the architect when engaged by a builder under Paragraph B above, including design and supervision of landscaping, planting and special paving, etc. | Fee to be negotiated between architect and builder. |
| (d) For providing copies of site plans for use by solicitors for conveyancing purposes. | Fee to be negotiated. |

Statement by the R.I.B.A. on National and Urban Motorways

THE ROYAL FINE ART COMMISSION has just published a statement on motorways, which the R.I.B.A. supports wholeheartedly. It is a vindication, from an uncommitted body, of the R.I.B.A.'s contention that architectural advice from the very beginning is essential in the planning and design of motorways.

The Problems

The R.I.B.A. welcomes the opportunity that new motorways give for imaginative design. However, they also raise many new problems, social, aesthetic and psychological, apart from the economic ones they seek to solve. And it is when they meet and have to feed their traffic into a city or town that the motorways give rise to the most complex three-dimensional problems.

The effects of the Urban Motorway

The urban motorway has to have the capacity to carry enormous traffic loads (about three times anything known in this country today) into and through our ancient and complex urban areas. It must inevitably involve the demolition of large numbers of buildings, the cutting of existing communications and the appearance of an entirely new scale in our townscapes. Some parts of cities can absorb these changes to visual advantage; in others they would be a visual disaster. Thus the location of urban motorways (and not merely their design) is inseparable from the problems of three-dimensional planning and civic design as a whole, and must be studied by those best qualified in such matters.

Raised Motorways

Where, as must often happen, high-level motorways are the only economic solution, all these problems are aggravated. If insensitively sited and clumsily designed, such roads will destroy the appearance of the town completely, stabbing like a sword into its very heart, as so many of the American motorways have already done. If well designed, they may be majestic and exciting and open up new possibilities for urban renewal.

They can be symbols of inhuman scale, establishing tyranny over the economic life of the town; or they can enhance its scale and dignity, and be things of grace and beauty in themselves.

The Architect's Place

The root of the architect's argument is that no benefit will come from calling him in merely to design the bridges and service buildings along the motorway. His advice is necessary from the very moment when it is decided to investigate the problem, for he is trained to think in terms of the total human environment. It is the

R.I.B.A.'s contention that such an approach is absolutely essential if we are to be the masters and not the servants of our own inventions.

What can be done now?

Certain local authorities are at the moment setting up joint committees to consider the future development of urban motorways and feeder roads. The R.I.B.A. is deeply concerned that none of these committees have so far decided to include architects.

If, as we have shown, the architect is not only concerned with the design of road accessories, but also has a vital part to play in the fundamental planning of the roads, then it would be tragic if these committees continued to ignore his contribution.

It is only by making use of the best possible advice from all quarters that our towns and cities can avoid the monstrous mistakes of the past.

Statement by the R.I.B.A. on the Town and Country Planning Bill, 1959

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS is concerned at what it anticipates will be the harmful effects on the planning of our towns and countryside of the new Town and Country Planning Bill and wishes to propose an amendment which would overcome these without upsetting the principle of compensation at current market values.

The Institute considers that it would be unrealistic to suggest that we could now go back to the 1947 Act. Its dismantling began with the 1954 Act which abandoned the attempt, by compensation for development rights, to secure the sale of land at existing use values. One usually starts dismantling a building by taking the roof off and once this is done the rest of the structure is doomed. The question now is—can a temporary roof covering be devised until either permanent repairs are possible or a new structure can be designed?

Compulsory purchase by local authorities at restricted values was obviously unfair to land owners once the 1954 Act allowed the free sale of land at current market values. The new Bill before Parliament will remedy this relative injustice but in doing so it will, in the Institute's view, place local authorities in an invidious position. The preparation of Development Plans and their quinquennial reviews is a statutory obligation placed upon them by the Government. If these plans are to be objective it is most undesirable that authorities should be placed in a position of having to zone land for uses which give enhanced values when in the future they may, in the public interest, be acquiring some of this land compulsorily and thus be forced to buy back values which they themselves have created.

Local government policies do not remain

unaffected by financial considerations of this kind and who can blame a local authority if, in the interests of its ratepayers, it decided not to include in its plan future proposals beyond an immediate five-year period. If the land where development is anticipated is kept zoned at its present lower value there is always a chance of acquiring at that value, waiting five years (the period which the present Bill stipulates) and then zoning the land for its intended use.

The amended approach which the Institute wishes to suggest aims to keep the prices for compulsory purchases on a stable basis so that when changes are considered at quinquennial reviews the local planning authorities will have no incentive to keep their future plans hidden away in order to avoid increased compensation. The principles of the amendment are:

1. The owner of land subject to compulsory purchase shall receive compensation at current market values.
2. The local authority shall pay a sum related to the 1947 value of land but adjusted to present day money values.
3. The difference between the two values shall be borne or collected by the central government.

Under the existing Act compensation for compulsory purchase is based on the existing use value plus 8/7ths of the admitted claim on the £300 million compensation fund, the extra 1/7th allowing for interest between 1947 and 1954. This addition could now be increased to allow for the change in money values thus keeping the Government's contribution to a minimum. Local authorities would pay more than previously, but their payments would still be proportional to 1947 values.

As local planning authorities carry on their activities in the furtherance of national legislation it would seem equitable for the National Exchequer to meet that proportion of the compensation bill which would enable planning to be pursued in a proper way. This principle is already accepted in respect of compensation for planning restrictions. The amount of land compulsorily purchased in England and Wales during 1957 (the latest year for which records are available) was only 614 acres. The annual cost to the Government of the proposal cannot therefore be very great, and it could be kept within reasonable limits by adjustment of the amount to be added to the 1947 values. It would, of course, be open to the Government to introduce some form of collection of betterment arising out of increased values so as to offset the national expenditure involved, but this is a matter for the future. The Institute considers that the immediate and urgent need is to make sure that planning authorities are not driven to secrecy in their forward looking proposals and to give time for fresh thought on the fundamental problems involved, and the amendment suggested by the Institute has these aims in view.



‘A Country Builds’

A Preview of the S.W.I.A. Exhibition arranged in connection with the British Architects’ Conference, Cardiff, 10–13 June

WITH the British Architects’ Conference centred on Cardiff this June, the South Wales Institute of Architects is holding at the City Hall, Cardiff, an exhibition with the title ‘A Country Builds’. The hosts of the Conference, the South Wales Institute of Architects (which by the way includes Monmouthshire and the West), are joined by the architects of North Wales to give a national and not merely regional flavour. Much original research has been carried out to provide the material for the exhibition, which shows the heritage of building in Wales, the best of modern work, and which seeks to show the inseparable link between buildings and the many influences which have shaped their form and purpose.

Shortly after the Conference, the exhibition will be opened to the general public at the Cardiff Department Store of David

Morgan Ltd., for the period 18 to 28 June, and in fact, follows a Council of Industrial Design sponsored exhibition ‘The Design Centre Comes to Wales’. This store has taken great initiative in bringing good design and the work of the architect before the people of a country which, although renowned for literary and musical achievements, has up to now shown little general encouragement of the visual arts.

This then becomes a dual purpose exhibition, and it is prefaced by a section which endeavours to set the scene. Building in this country is subjected to many peculiar influences of geology, geography and sociology. Wales is of course, a land of great contrasts, and great differences between north and south, between peoples, environments, and occupations.

Whilst summarising this exhibition, it

should perhaps be pointed out that the coverage is of building in Wales, and not solely building by the Welsh!

The exhibition is divided equally into four main sections:—

1. History—pre 1780.
2. History—1780–1940.
3. Today—a selection of current work.
4. Tomorrow—a preview of projects which are still on the drawing board, or at an early stage of construction.

It should also be mentioned that a special number of the quarterly journal of the S.W.I.A., under the editorship of J. M. Eynon [4], is to be issued at Conference time, and contains articles on building in Wales both past and present, forming a complement to the exhibition. This special number will be available at the Conference.

'A Country Builds'

Caerphilly Castle—
Glamorganshire.
One of the finest
examples of medieval
military architecture in
Britain. In times of
trouble the castle could
be further protected by
large lakes, formed by
the damming of a
stream

Photo: Terence Soames, Cardiff

Rt.: Strata Florida
Abbey, Cardiganshire.
The west doorway is
of very unusual design,
and shows features of
Celtic interest

Photo: Ministry of Works,
Crown copyright reserved

Below: A bedroom in
a Welsh country dwell-
ing of traditional type
re-erected at 'St.
Fagans' Welsh Folk
Museum

Photo: National Museum of
Wales

Section 1. History—Pre 1780

Although Wales is rich ground for those interested in archaeology, the Roman occupation gives the first real building in the country, and this is the earliest period covered by the section, with a wealth of good material from famous Caerleon and Caerwent. The Welsh were certainly in existence as an independent people when the last Romans left our shores, but the Dark Ages and Christian era, leave no signs of architecture comparable with contemporary Celtic art. It should perhaps be mentioned that those who find interest in these periods will certainly enjoy a visit to the Welsh National Museum, a building adjacent to the City Hall.

An abundance of castles in Wales is a reminder of another invasion and of the constant and fruitless attempts to suppress the Welsh, especially in border country. Here too is the nucleus of the first Welsh town development.

There are fine monastic remnants of medieval Wales, famous Tintern and Strata Florida, and these together with the cathedrals and parish churches of the land are rich examples of the Gothic style.

Domestic architecture is certainly more a true vernacular, and readers of *The Welsh House* by Dr. Iorwerth Peate will be familiar with the long, circular and crogloft¹ cottage constructions. Wales has many fine examples of the houses of the landowners too, and it is interesting to note that after the Act of Union with England, these landowning classes indulged in grand and fashionable architecture, while the Welsh peasants suffered a great reverse and their conditions sunk lower and lower.

¹ A crogloft cottage is one in which an upper floor is inserted over the bedroom.





Photo: A. J. Gordon

Section 2. History—1780–1940

Cyfarthfa Castle, Merthyr, 1825

This section covers the period of the Industrial Revolution in Wales—a time of development which so visibly altered the face of the land. The new age was a power age of steam, and with it came demands for iron, coal and slate, all of which existed in quantity within the boundaries of the country. To meet these great demands, the natural resources of Wales were exploited to the full, and exploited ruthlessly. The surge of industrial invasion meant that the population as a whole was doubled, while in the Rhondda valley area alone the increase was eightfold. This hurried expansion in a concentrated space of time, produced an uncontrolled growth of mills and factories, tips and sprawling terrace houses which, in the industrial south, strangled the upland farming areas. In this review of a period of intense activity, can be seen quite clearly demonstrated by their structures, the separation of the architect from the engineer, and the gradual coming together again of the two parties in more recent times.

For convenience, the 160 years covered in this section have been divided into 20-year periods, and a comparative analysis becomes possible with the further division of architects' buildings from engineers' buildings. The typical warehouses, dock structures and railway buildings make a direct contrast with the works of Seddon, Pritchard and their contemporaries. The words of Mies van 'der Rohe: 'Wherever technology reaches its final fulfilment it transcends into architecture' are well illustrated by the examples of pure engineering. The aqueducts and North Wales bridges of Telford, the Britannia tubular bridge of Brunel, are accompanied by Crumlin Viaduct, Newport Transporter bridge and other equally interesting although lesser known examples of a more vernacular origin.

An attempt has also been made to illustrate the technical innovations which appear only behind the scenes in 19th-century

architecture, but out of which the modern movement grew.

During the 19th century, generally a most unhappy time for architecture, there are indications that some architects were far from satisfied, and were in fact striving to find the truth. This is shown in several Welsh works by Bodley, Norman Shaw, Voysey and others, and coupled with these is the evidence in cottages, mills and chapels of an intelligent use and fundamental mastery of the new material—cast iron. Wales too saw what was probably the first multi-storey use of reinforced concrete in Britain, although it must be admitted with regret that there is no real continuity of enlightened design, and that most of the exciting possibilities were missed by architects until this century, and were only taken up extensively on the Continent. However it is indeed fortunate that the Principality is so rich in examples of much of the early work, from which the modern movement developed.

'A Country Builds'

Old Cast Iron Bridge
on the Crawshay
Iron Works Site,
Merthyr

Photo: A. J. Gordon



Taff's Well, Railway
Bridge, near Cardiff

Photo: A. J. Gordon



'A Country Builds.' 3. Today

Shops at West Pontnewydd. Architect: J. C. P. West, A.M.T.P.I. [A]
 Chief Architect: Cwmbran Development Corporation
 Food Depot for Harold Leigh Ltd., Fforesfach, Glam.
 Architects: Smith, Wilson and Cox [F/A]

Photos: Hylton Warner





Photo: H. Tempst Ltd., copyright The Northern Aluminium Co.

C.W.G. Plant House for Wales Gas Board, Aberavon. Architects: T. Alwyn Lloyd and Gordon [F/A]

'A Country Builds'

Section 3. Today

It is probably true to say that Wales is undergoing the commencement of a second industrial revolution. There has been recently a tremendous expansion of heavy industry, and the start of what may well be a flood of light industry to the country. It is good to see in the work of this section that the architect and engineer are once more working in close collaboration.

In common with the rest of Britain, much of the most advanced post-war architecture in the country is concerned with education, and here Wales can show many good examples.

The recent restoration and additions to the Cathedral at Llandaff are witness of the enlightened commission of the Church in Wales, and the Roman Catholic Church is expanding with obvious architectural sympathy. It is sad that the Nonconformist movement in Wales which produced such vigorous and exciting chapels during the last century should be showing little sign of progression.

Much good work of the Industrial

Revolution period was pioneered by firms, industries and services which have now become nationalised enterprises, but this section shows that their successors are generally keen to maintain a high progressive standard.

The domestic work illustrated in the section shows that of local authority housing, that of Newport, Mon. is undoubtedly well above average, while the work in Cwmbran, the only new town in Wales, is the most advanced, and of a very high order. Good private houses, as in most other parts of Britain, are hard to find, but there is evidence of good examples, mostly by younger architects.

Section 4. Tomorrow

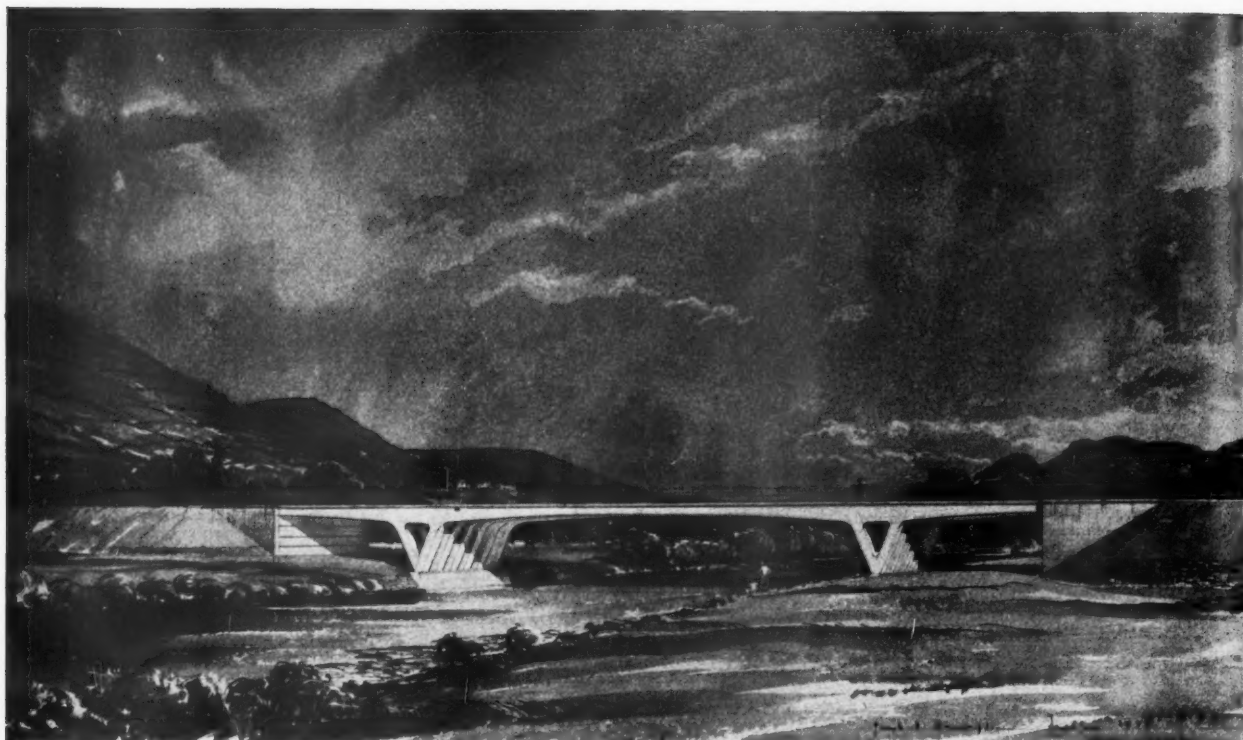
In a country which has such a bright prospect for industrial expansion, communications are a vital factor, as shown by the last century. The road improvement projects now under construction, particularly in the south, are but the start of an inevitable and long overdue major programme. It is good to see from material in this exhibition that here in Wales, architects are very definitely playing a major

part in these projects, an advance on the 19th century.

Also included in this section is an attempt to show how technology can be used to overcome peculiar problems, for example of building in areas liable to mining subsidence, and the architect-engineer collaboration is shown in comparative structures, quite different in principle, but designed to meet the same conditions.

Models and illustrations of projects still at the drawing board stage are indications of a growing enlightened commission in Wales. Here is hope of a real chance to avoid in the future the uncontrolled disaster of the last century and inter-war years.

A fifth but most important section of the exhibition must also be mentioned. This is devoted to the work of the Welsh School of Architecture, the only recognised full-time course in Wales which can be completed with the award of a Dip.Arch. This School is not as widely known as its work merits, and very certainly the principal, Mr. Lewis John, M.A., B.Arch., [F], and his staff are playing a vital role in training in Wales the architects of tomorrow for the architecture of tomorrow.

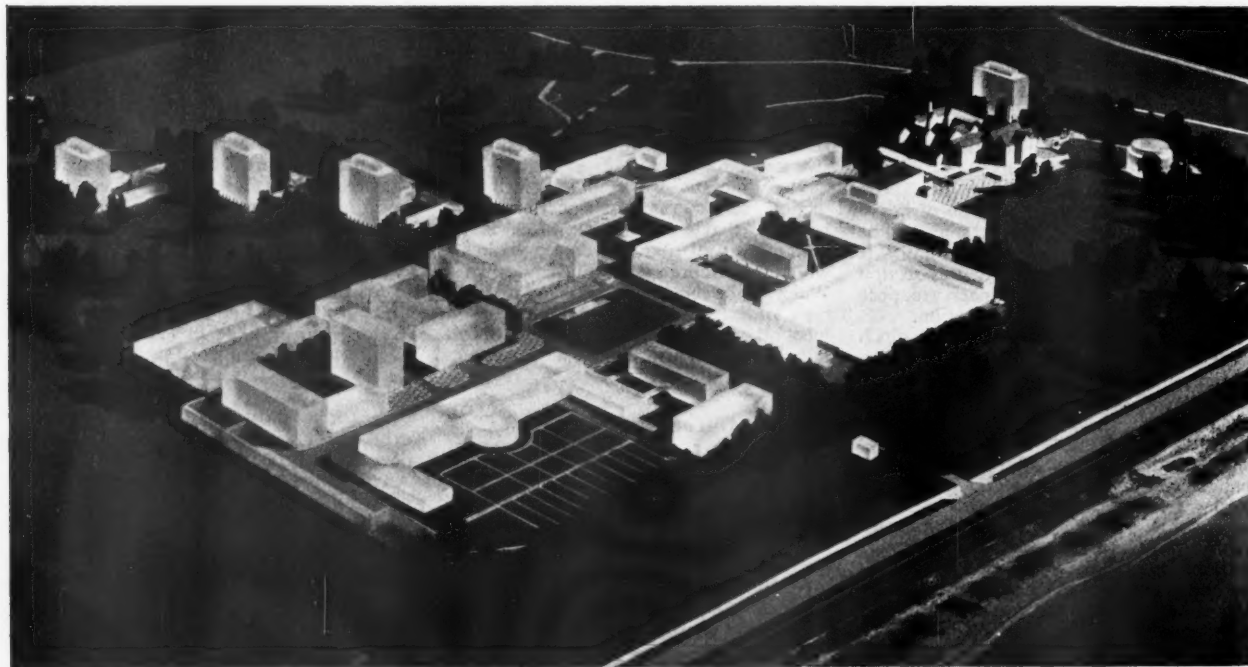


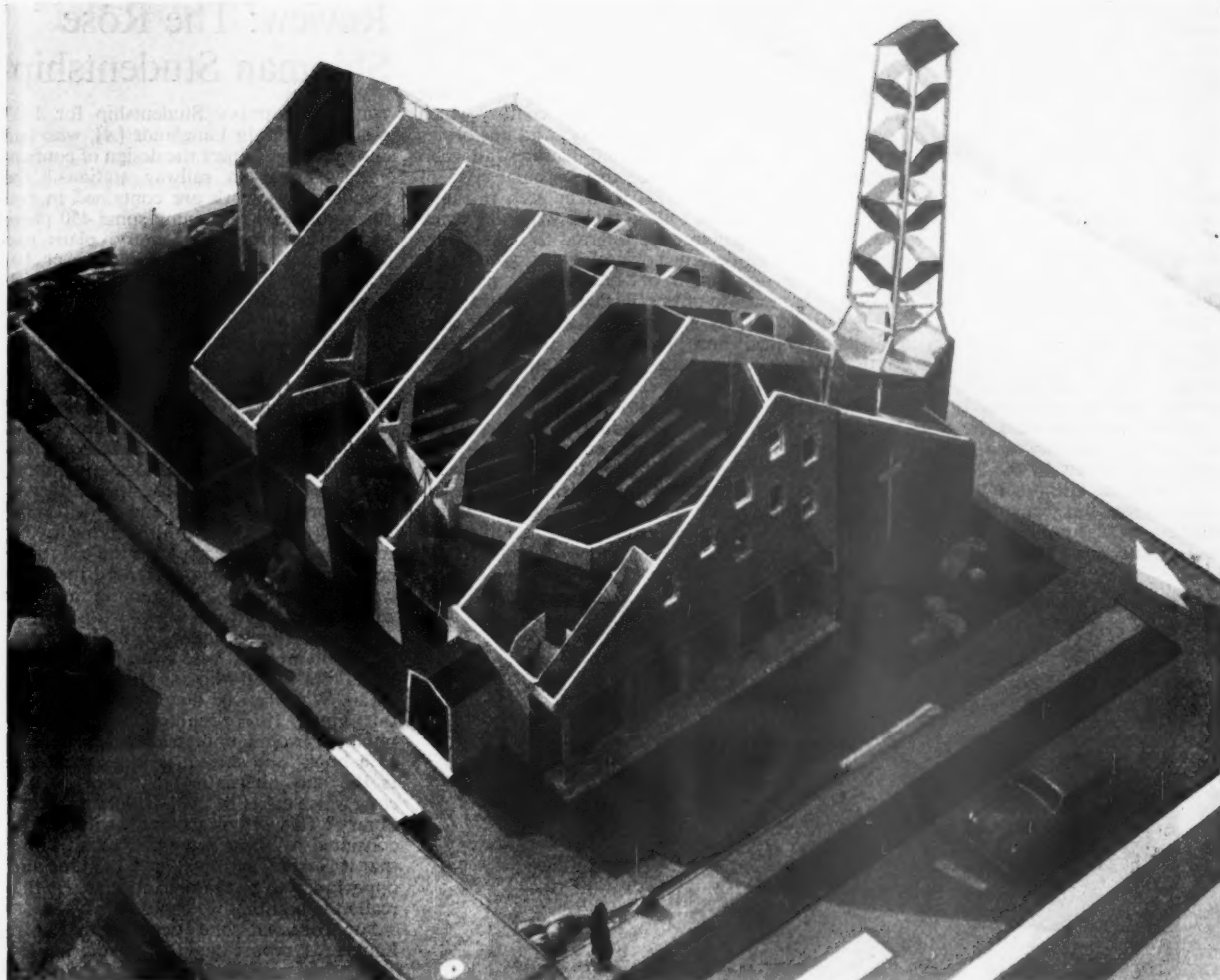
Proposed Road Bridge over River Usk, part of the Ministry of Transport's Scheme for A.465
Consulting Engineers: Rendel, Palmer and Tritton
Consulting Architects: T. Alwyn Lloyd and Gordon

'A Country Builds.' 4. Tomorrow

Photo: John Maltby

Model of proposed development, Swansea University. Architects: Sir Percy Thomas and Son [F/A]





Model of Roman Catholic Church, Cardiff (under construction). Architects: F. R. Bates and Son [A/A]

Photo: Hylton Warner

Cardiff and its Development from a very Small Town to a Capital City

by T. ALWYN LLOYD, LL.D. (WALES), P.P.T.P.I., F.S.A. [F]

PERHAPS the most remarkable thing about Cardiff which many people seeing its size and importance today do not appreciate is that at the beginning of the 19th century it was a tiny place with a population of about 1,500. It was then as it had been for centuries the county town of Glamorgan, having been since Norman days the Caput of the Lordship of Glamorgan. These lords, who were settled here after the conquest, comprised several feudal families who occupied Cardiff Castle and exercised great power and influence over this part of South Wales. The foundations of the castle actually go back to Roman times and part of that early structure can still be seen behind Duke Street.

The old walled town on the Taff River was confined to this restricted site until the Marquis of Bute, whose family by

marriage had become occupiers of the castle, had the enterprise and foresight to build the first dock at Cardiff in 1839. This was the beginning of the great era of coal shipping and mercantile pursuits which came to the city in the mid-19th century. An interesting feature of that development which has had considerable effect on the subsequent life of Cardiff is that the docks and industrial locations are $1\frac{1}{2}$ mile away from the centre of Cardiff. This was in effect, although no doubt not executed as such, an early instance of what is now called zoning in the town planner's jargon. At all events it has been a great advantage of keeping the town centre free from the dirty and untidy processes which are associated with docks, steelworks, flour mills and factories. This with the existence of Cathays Park, the civic centre, distin-

guishes Cardiff from most other large populous towns in this country.

Right at the end of the 19th century negotiations were commenced between the borough council and the Marquis of Bute for acquiring what was then part of the castle estate, and known as Cathays Park. This with its avenues of trees became the civic centre on which as a result of public competition, a series of public, national and local government buildings was erected. There was a good deal of controversy at the time as to whether the price paid for Cathays Park was justifiable, but everyone is now agreed that this transaction and its subsequent history was one of the most fortunate circumstances that Cardiff has encountered.

Criticisms have arisen against the civic centre on points of detail. It was not laid

out by architects but just happened as a result of the municipal engineer's general idea. Many of the roads are too wide, and quite recently much has been spent on dividing up the incongruous space in front of the City Hall and Law Courts into properly planned traffic lanes and lay-bys, to meet the requirements of modern traffic.

If Cardiff has been fortunate in the placing of its docks in relation to the old town, and in its possession and exploitation of Cathays Park, the still more recent gift of the castle and its extensive grounds has been a culmination of good fortune. This gift from the 5th Marquis in 1948 marked a fitting recognition of his family's long connection with the city and its development. It may be mentioned that during the period of the city's phenomenal growth between the years 1850-1914 the principal landlords were the Bute Estate, the parts of the city and suburbs being owned respectively by the Lords Plymouth and Tredegar. Although this fact is not perhaps given full recognition, long before the days of statutory town planning, the Bute Estate carried out estate planning

which was much better than the kind of unimaginative layout of streets and terraced houses practised in other towns. There are many examples of squares, crescents, greens, double track highways of the late 19th century and early 20th century which are still worth study today. And this brings one to another Cardiff feature—an echo of the kind of Scottish baronial style of architecture which is to be seen in many of its streets. I recall that my friend Patrick Abercrombie once referred to it as a 'city of semi-detached offices'. This resulted from the conversion of 19th-century pairs of houses into offices. Right down until 1914 it was largely a stone-built town of terraced houses, and then later semi-detached; grey Pennant-stone fronts, Bath stone bays and dressings. Brick fronts have only appeared in the last 40 years.

The inter-war building was a sad disappointment, neither the council housing nor speculative building of that period were up to the previous standards. One wisecrack of the time was to dub Cardiff as 'a city with a noble centre and an ignoble circumference'.

Review: The Rose Shipman Studentship

THE ROSE SHIPMAN Studentship for 1957 was won by Iain Langlands [4], who had chosen as his subject the design of contemporary European railway stations. The results of his work are contained in two thick volumes, containing some 450 pages of photographs, commentary, plans and sketches, in which he describes over 100 stations, in 10 different countries, which have been built, or started, since 1945.

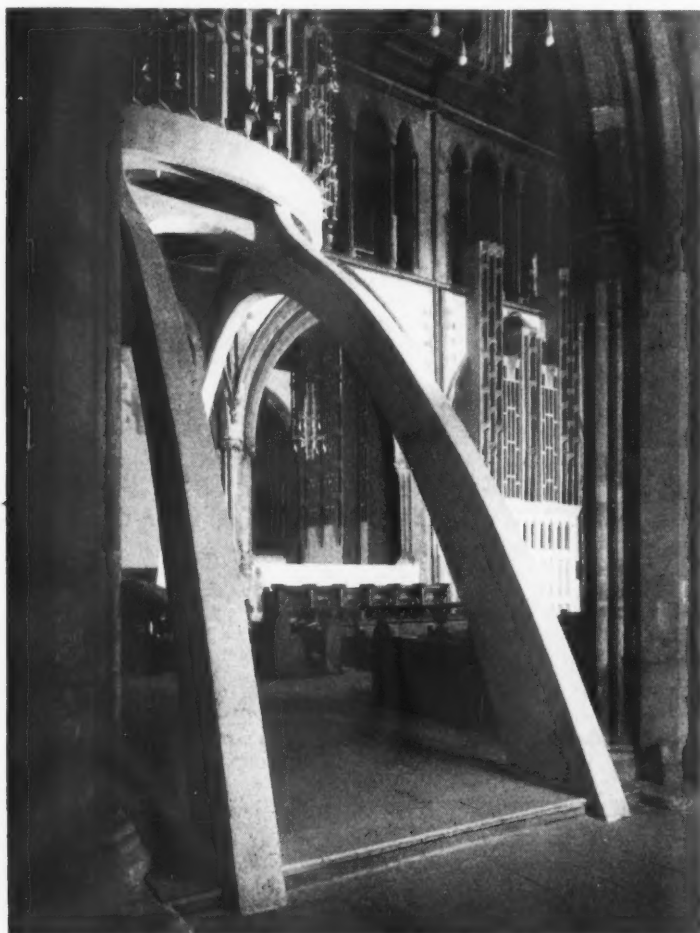
In his introduction, Mr. Langlands discusses the pre-1920 influences of Toni Garnier and Antonio Sant'Elia and reviews some of the more important works of the inter-war years. He then takes each country in turn, starting with Norway in the north and ending with Italy in the south, and gives enough information about each station described for the reader to understand how it works and to gain some idea of its architectural treatment. En route, as it were, he sketches the economic conditions which have influenced the post-war reconstruction programme in each country.

This is a serious collection of data by an observant architect who is keenly interested in his subject and who has an eye for useful detail. What can be done with a work of this kind? It is doubtful whether any publisher would undertake to produce it as a book—the subject is too specialised. Is the only alternative to place the one copy which exists in the R.I.B.A. reference library? This will mean that it will only be consulted by those who first of all know that it is there, and then have the time and opportunity to go to Portland Place. Is this really the best that we can do?

Suppose that one decided that Mr. Langlands' report ought to have a limited circulation, say one to each of the seven railway architects' offices in the country, one to each school of architecture, one to each of the principal architectural libraries, and, say, two copies to the loan library of the R.I.B.A. Something like 50 copies would probably cover it. Is there no process by which the original work could be reproduced page by page, without making blocks, or setting type, or re-drawing the plans—something like the Rotaprint process? It would not matter very much if the quality of the reproduction was not of first quality, as long as the text could be read and the drawings and photographs were still intelligible.

As the result of Mr. Langlands' award we have a useful collection of information about post-war railway station design which anyone concerned with the subject would be glad to refer to. As a return to the R.I.B.A., for the prize money, it is very good value. There must be many such reports already in the R.I.B.A., and no doubt many more will be written in the future. Could the appropriate Committee perhaps look into the technique and economics of giving them a wider distribution?

R. T. WALTERS [4]



Llandaff Cathedral. The pulpit and new organ cases (1958). Architect: George G. Pace, F.S.A. [F]

Practice Notes

Edited by Charles Woodward [4]

LONDON COUNTY COUNCIL. *London Building Acts, 1930-39 and By-laws; Air Conditioning and London Building (Constructional) By-Laws 1952.* In connection with a proposed 31-storey block of offices with large glazed surfaces, the Council has indicated, having regard to the provision of full air conditioning, that it is prepared to modify By-law 11.03 (2) (b) (Lighting and Ventilation) of the London (Constructional) By-laws 1952 so as to permit the windows to be fixed permanently shut and sealed instead of opening to 1-20th of the floor area of the rooms, as allowed by the By-law subject to the provision of emergency vents to the outer air which could be operated manually in the event of a failure of the power supply to provide natural ventilation, to aggregate not less than $\frac{2}{3}$ per cent of the floor area and to the provision of a standby power plant available in the event of failure of the motor driving any ventilation fan.

This decision should help to solve the difficulties inherent in very high office buildings where permanently fixed glazing is desirable to form a seal both against external moisture penetration and draughts and to ensure the efficient operation of the air conditioning system. The problem of keeping such buildings warm in winter and cool in summer can be solved by air conditioning but the object of a balanced mechanical system would be defeated if the occupants could open windows at will.

The case in question was considered on its merits as will be any other similar projects submitted to the London County Council and the decision is without prejudice to the Council's decision in any other case. Any persons interested in obtaining the details of the above decision should write to the Superintendent Architect of the Metropolitan Buildings, London County Council, County Hall, Westminster Bridge, S.E.1, quoting reference (AR/GS/212/1).

WHITLEY COUNCILS FOR THE HEALTH SERVICES (GREAT BRITAIN) Professional and Technical Council 'B'. Regional Hospital Boards' Works Organisations Professional and Technical Staffs.

1. The Professional and Technical Council 'B' has agreed to increased salaries for certain of the above-mentioned officers in England, Wales and Scotland. The scales shown below replace, from 1 November 1958, those set out in P.T.B. Circulars 71 and 81 (which are hereby superseded) with consequent revision of the overtime maximum, the excess duty allowance minimum and annual leave change points as shown in the amendments to P.T.B. Circular 66 in paragraph 5 below. Except for these changes all the provisions of P.T.B. Circular 66 remain effective.

2. SALARY SCALES: PROFESSIONAL GRADES

(a) *Regional Architect and Regional Engineer*

Group 1:

£1,885 × 80 (1) × 85 (4) × 50 (1)—£2,355

Group 2:

£1,775 × 80 (1) × 85 (4) × 50 (1)—£2,245

Group 3:

£1,660 × 80 (1) × 85 (4) × 40 (1)—£2,120

Group 4:

£1,370 × 55 (4) × 60 (1) × 30 (1)—£1,680

Group 5:

£1,175 × 45 (1) × 70 (1) × 45 (2) × 50 (2) × 30 (1)—£1,510 (applicable to the Regional Architect only).

(b) *Deputy Regional Architect and Deputy Regional Engineer*

Group 1:

£1,415 × 55 (4) × 35 (1)—£1,670

Group 2:

£1,330 × 55 (4) × 40 (1)—£1,590

Group 3:

£1,235 × 65 (1) × 45 (4) × 30 (1)—£1,510

(c) *Principal Assistant Grades*

Scale I:

£1,235 × 65 (1) × 45 (4) × 30 (1)—£1,510

Scale II

£1,195 × 45 (2) × 15 (1) × 45 (2) × 30 (1)—£1,420

(d) *Senior Assistant Grade*

£1,050 × 30 (3) × 35 (3)—£1,245

(e) *Assistant Grade*

£730 × 25 (2) × 30 (2) × 35 (5) × 40 (1)—£1,055

3. SALARY SCALES: SUB-PROFESSIONAL GRADES

(b) *Architectural Assistants* { £545 (at age 21 or over)
Engineering Assistants, { × 20 (3) ×
Grade II { 25 (4) × 30
Surveying Assistants { (2)—£765.

(c) *Draughtsmen*

£445 (at age 21 or over: £20 shall be deducted for each year below that age) × 25 (5) × 30 (3)—£660.

(d) *Surveyors' Clerks*

£460 (at age 24 or over: £20 shall be deducted for each year below that age) × 15 (3) × 20 (3) × 25 (3)—£640.

Note.—If an officer is appointed to one of the grades in (c) or (d) above, at a point below the minimum because of age, he shall receive equal increments on succeeding birthdays so that he reaches the minimum of the scale at the appropriate age.

4. ASSIMILATION

(a) Officers shall be assimilated at 1 November 1958, or the date of appointment if this is between 1 November 1958 and the date of this circular, to the points on the new scales corresponding to the points they had reached on the scales in P.T.B. Circulars 71 and 81.

(b) If an officer is on an off-scale point within a scale in P.T.B. Circulars 71 and 81 the Joint Secretaries should be consulted as to the method of assimilation.

(c) Incremental dates remain unchanged by the foregoing assimilation provisions. (February 1959.)

Cost Control Conference, Bristol

A FURTHER conference on methods of the control of building costs at the design stage is to be held at Wills Hall, Bristol, from 2 to 4 July 1959 under the sponsorship of the Cost Research Liaison Committee of the R.I.B.A. and the Royal Institution of Chartered Surveyors. The Conference will be on the same lines as the Cost Control Conference held at Great Missenden in January 1959, with most of the original speakers. The conference arrangements are being made jointly by the R.I.B.A. and the Bristol and Somerset Society of Architects.

The R.I.C.S., the N.F.B.T.E., and R.I.B.A. Allied Societies within reach of Bristol are being invited to send representatives and there will be additional places open to individuals. Applicants for the Missenden Conference who were unable to obtain a place there are being given priority of booking.

The subjects and speakers are as follows:—

The architectural profession in relation to the national economy and world conditions, by Professor J. V. Connolly, B.E., F.R.Ae.S., M.I.Prod.E. (Director of Sundridge Park Management Centre).

Techniques and methods of cost control, by Mr. J. Nisbet, F.R.I.C.S. (War Office).

Cost analysis and its application to cost planning and cost control techniques, by Mr. Cyril Sweett, F.R.I.C.S. (Chairman, R.I.C.S. Cost Research Panel).

General discussion on alternative techniques of cost planning, led by Mr. G. J. J. Hunt, B.E., A.R.A.I.A. [4] (Building Advisory Service). (Mr. C. M. Nott, A.R.I.C.S., and Mr. P. W. Grafton, F.R.I.C.S., authors of the papers to be discussed, will also be present.)

The architect's responsibility for programming and contract planning, by Mr. J. M. Austin-Smith, M.C., T.D. A.A.Dipl. [F].

The effect of the design process upon building operations, by Mr. I. Tomlin, F.I.B.E. (Howard Farrow, Ltd.).

The importance of communications in cost control, by Mr. A. C. Leyton, B.A. LL.B., Barrister at Law (Organiser of Liberal Studies, Northampton College of Advanced Technology).

Applicants are asked to write to either the Secretary of the Cost Research Committee at the R.I.B.A., 66 Portland Place, London W.1, or Mr. R. Towning Hill at 18 Orchard Street, Bristol 1. Details should be given of their age, professional or other qualifications, where they work and in what capacity and what, if any, experience they have in the application of cost control methods, and whether they will require a residential or non-residential place. Applications should be received by 15 May.

The Conference fee will be £10 for a residential place or £7 for non-residents (to include all meals other than breakfast).

Similar Conferences will be held at York (9 to 11 October 1959), Manchester (2 to 4 January 1960), and Nottingham (date not yet fixed). Details of these will be announced later.

The full set of papers that were presented at the Missenden Conference are now obtainable (price 25s.) from the Secretary, R.I.B.A., 66 Portland Place. They form a useful reference book on the subject of cost control at the design stage for anyone who is unable to attend any of the above conferences.



Fig. 1. Coventry before the war

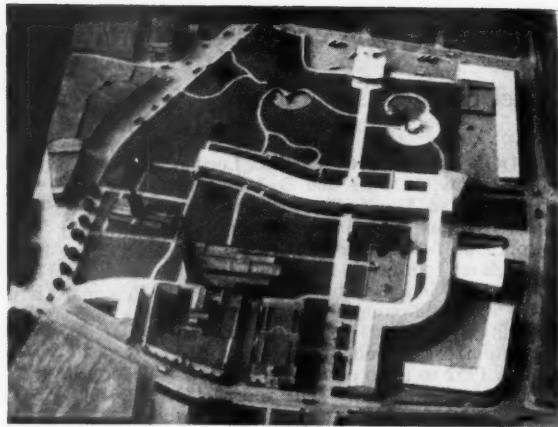


Fig. 2. The pre-blitz model, Scheme 1

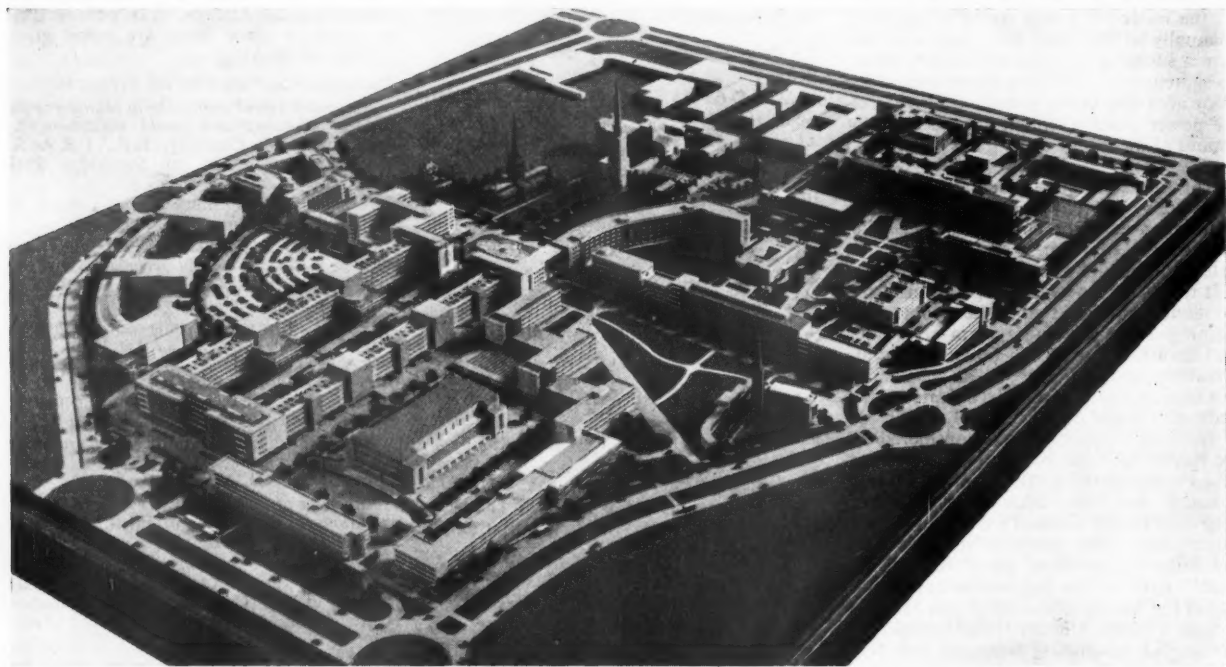


Fig. 6. The 'Bassett-Lowke' model, Scheme 3

Comprehensive Redevelopment II—Contemporary Examples*

by P. E. A. Johnson-Marshall, Dipl.Arch.(L'pool), A.M.T.P.I. [A]

The British Legal Background

THE Town and Country Planning Act of 1944 described in legislative terms the methods by which a city as a planning authority could acquire the land in order to rebuild its war-damaged areas comprehensively. The 1947 Act went further with its supporting regulations in setting out a detailed procedure for comprehensive development areas. Briefly, a planning authority had to submit a set of documents

* Second part of a report of the lecture given at the R.I.B.A. on 9 December 1958, with Mr. Basil Spence, President, in the Chair.

for the approval of the Minister of Town and Country Planning, and the latter would then hold a public inquiry to hear objections. Eventually the Minister would give his approval, with or without amendments. The documents had to include a comprehensive development area map (zoning) and a programme map, both to 1/2,500 scale (i.e. large enough to see every building), and a written statement. The latter had to set out the purposes for defining the proposed area, and the Act, in section 5 (3) gave guidance as follows:

'... any area which in the opinion of the local planning authority should be developed or re-developed as a whole, for any one or more of the following purposes, that is to say for the purpose of dealing satisfactorily with extensive war damage or conditions of bad lay-out or obsolete development, or for the purpose of providing for the relocation of population or industry or the replacement of open space in the course of the development or re-development of any other area or for any other purpose specified in the plan; ...'

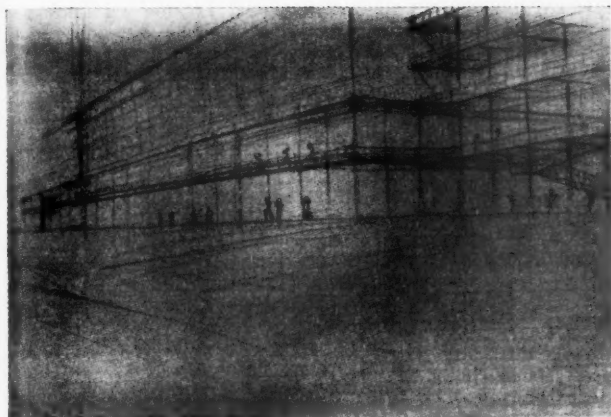


Fig. 3. An early sketch of the shopping precinct

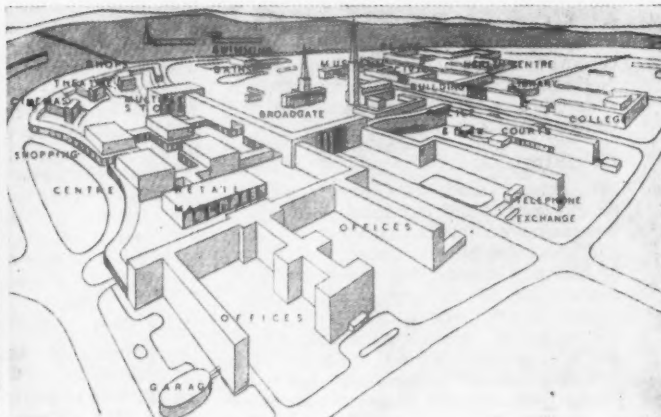


Fig. 4. The post-blitz plan, Scheme 2

COVENTRY

The centre of Coventry before the war (Fig. 1) shows the medieval street pattern with indiscriminate urban renewal taking place. Broadgate, the very modest central square, is left centre with Trinity Church and the Cathedral upper right. Leading into Broadgate at lower left is Smithford Street, the main shopping street. Donald Gibson's pre-war model (Fig. 2) was an unofficial scheme which gave an idea of how part of the central area could be redeveloped with an overall plan. The famous post-blitz plan (Fig. 4) here illustrated by a contemporary drawing by Noel Musgrave, shows, with the analytical plan (Fig. 5), how the central area was grouped into precincts. An early sketch of mine which shows the upper level walkways (Fig. 3). A more considered study (Fig. 6) developed these ideas in architectural terms, particularly in relation to the shopping precinct, left. The present model (Fig. 7) shows the shopping precinct bisected by the intruding road, now a pedestrian way. In the background can be seen the educational precinct and the changes brought about by the new Cathedral. Most of the buildings in this model are complete or under construction, all in accordance with the comprehensive plan.

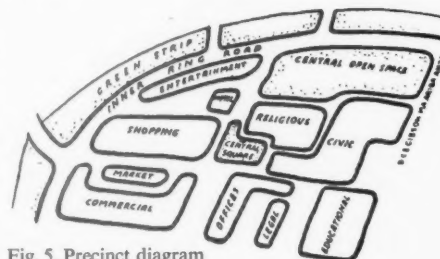


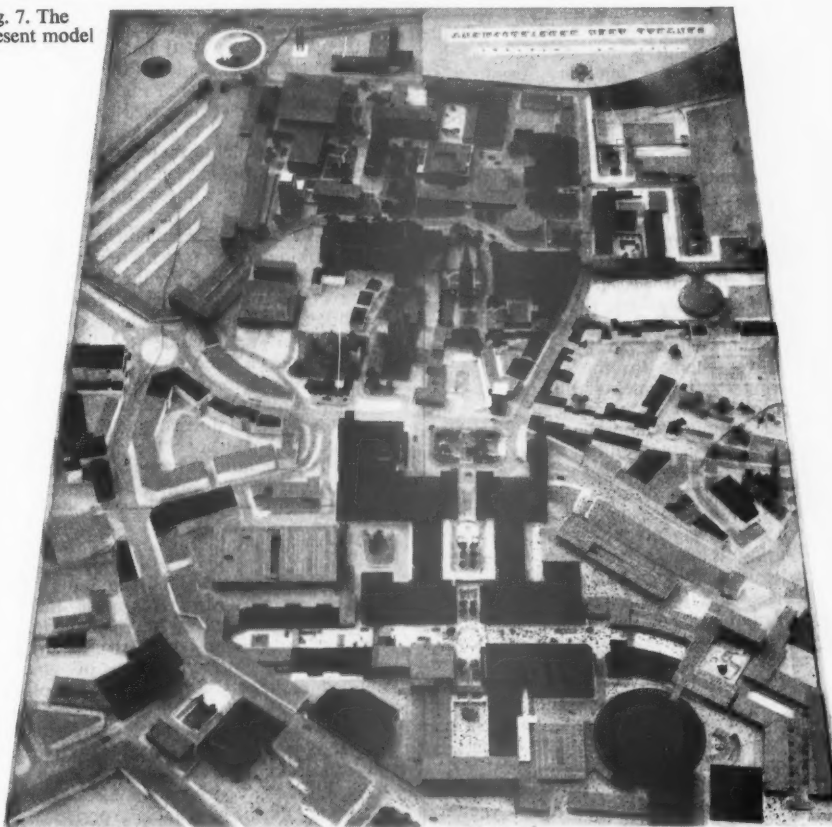
Fig. 5. Precinct diagram

Two other significant procedural regulations should be mentioned. One was the 90 per cent Treasury grant to enable planning authorities to buy as much of the land as was necessary without going bankrupt, and the other was that no works of any kind over £100 in value could be undertaken without submitting an application for planning permission.

Adequate legislative and financial machinery was thus provided, but there is a vast difference between a Planning Act and 'a collective work of art', as Professor Gardner-Medwin has called the final objective. I emphasise this because there are people who still think that on completion of the tasks set out by legislation the job is done—on the contrary, it is only the essential beginning, but its importance must be stressed, for without it very little would happen, as so many other countries have proved. Two other requirements are in my opinion essential, and all the successful examples of comprehensive redevelopment have included them. One is the preparation of an overall three-dimensional scheme, not as a static unitary design but as a dynamic and flexible guide to redevelopment in time as well as space. The other is the continuous supervision during implementation by practical visionaries, both among the planners and among the elected members of the planning authorities.

It is one of the most interesting aspects of town planning that not only do the problems of different sizes of city vary very much but almost every city is a unique problem in some way or other. In examining some contemporary examples which

Fig. 7. The present model



have suffered from war damage I have selected three of widely different character; the small British city of Coventry, whose centre was largely destroyed, the large Netherlands seaport of Rotterdam, which endured a similar experience, and the metropolis of London.

Coventry

The pre-war scene in Coventry was of an old market and industrial town which was being completely changed in scale and character by the rapid development of the new engineering industries, particularly those concerned with motor vehicles, aircraft, and machine tools. In the absence of any plans for the central area (which had been scheduled under the 1932 Act procedure as 'an area excluded from planning'), destructive piecemeal redevelopment was taking place in what had been a very pleasant medieval core. Although the religious precinct formed by the Cathedral and Trinity Church had retained much of its original character, the rest was being destroyed by the intrusion of large banks, multiple and chain stores, and the ruthless destruction of historic building groups because they had been allowed to decay into slums.

The bombing of the city in 1940, although not so complete as Rotterdam, destroyed enough of the already inadequate centre to make comprehensive redevelopment a necessity, and the opportunity was apparent to all. By a lucky coincidence Coventry had just before the war set up a new City Architectural Department, and had appointed an outstanding young architect, Donald Gibson, as their first City Architect. It was my privilege to be a group leader in this new Department, which was new in many senses, and to be Gibson's planning architect during the exciting first stage of re-planning.

One of the first tasks Donald Gibson gave my team before the out-break of war was to prepare an 'ideas' plan and model (Scheme 1) for the area around the Cathedral. After the great 'blitz' the Council asked the City Architect and the City Engineer (who was then the Planning Officer) to prepare a comprehensive scheme for the destroyed centre. Owing to fundamental differences in approach to the problem, separate schemes were submitted, and the Council selected that of the City Architect (Scheme 2). This scheme was then carried to a more detailed stage (Scheme 3), and a large model was built, at the expense of Mr. Bassett-Lowke, whose railway models are in every home. During the next few years however the scheme suffered a number of minor setbacks, and Donald Gibson, who carried the plan successfully through the vital first years of implementation, was forced to accept a road which cut the pioneering new shopping precinct in two and damaged several other sites in its unnecessary alignment. Fortunately Arthur Ling, the present City Architect and Planning Officer, has been able to have this road closed, and it has become part of the pedestrian area. In spite of this and other difficulties, the main

principles of the original Coventry central area scheme have been maintained and in some ways improved. The first large pedestrian shopping precinct at two levels is now in existence, the civic precinct is being adorned by Basil Spence's fine Cathedral, and the educational precinct is well ahead. Its successful realisation is due to the unremitting efforts ever since 1940 of Donald Gibson, and more recently of Arthur Ling, and a devoted staff. In fact, both in leadership and teamwork the Coventry office could serve, as was originally intended, as a prototype of a new kind of Department.

Rotterdam

Rotterdam, a city with about three times the population of Coventry, suffered an even greater proportion of damage to its central area. Over 640 acres were devastated, leaving only some half-dozen buildings standing, but these included, remarkably enough, the Town Hall, Post Office, and the brand-new Stock Exchange. The Dutch authorities acted promptly, and expropriated the entire area by military ordinance, thus giving the planners a very free hand. The plan for the new centre is interesting in that it began as a slightly pedestrian affair and improved steadily as implementation took place. Like Coventry, it evolved a pedestrian shopping precinct in the Lijnbaan, with tall blocks of central area type flats adjacent to it, and other new forms include the Groothandelsgebouw, a group warehouse building, an enclosed multi-storey shopping centre in the Twaalf Provinciën, two flatted factory buildings, and interesting examples of mixed development like the Maastoren Flats, which have offices on the lower floors. In addition the whole area is district heated, but as with all new experiments there are disappointments, in particular the communications system, which is almost entirely at one level.

The methods of implementation have been strikingly similar to those of Coventry, with the planners and architects working in close co-ordination over a considerable period, and with large-scale models as a three-dimensional guide to the overall development. Rotterdam has been particularly fortunate in having a fine school of modern architects to develop new and exciting building forms, and both public and private enterprise has been bold in terms of building money and public adornment in the form of a number of excellent sculptures.

London

The briefest appraisal of London's comprehensive redevelopment must include mention of the pre-war M.A.R.S. Plan for London, a brilliant example of voluntary effort by an inspired group of young-minded architects. In the absence of an intelligent plan it is most important that inspired propaganda should be undertaken, and the M.A.R.S. Plan, apart from its propaganda value, gave architects like Arthur Ling, who later became the L.C.C.'s Senior Planning Officer, invaluable experience.

After the great London air raids the L.C.C. commissioned the late Sir Patrick Abercrombie to prepare, in collaboration with their own architect, the justly world famous County of London Plan. Although it dealt with almost all aspects of London's planning, considerable space was naturally given to reconstruction areas, among which the war-damaged East End was prominent. Surveys, zoning, programming, and three-dimensional schemes were prepared, and all were based on research, analysis, and a whole range of new planning standards. It was a brilliant achievement.

After the war the L.C.C. applied for permission to designate, under the 1944 Act, the great Stepney/Poplar reconstruction area of 2,000 acres, of which the Minister omitted some 630 acres in approving the scheme, after a lengthy public inquiry.

This was followed by the submission of the Bermondsey Reconstruction Area, a much more modest proposal (170 acres submitted, 117 acres approved) south of the river, and the City Corporation adopted the same procedure for 272 war-damaged acres (231 acres approved) in the City of London. In each case a large number of objections were lodged with the Minister, and the public inquiries were prolonged and complicated affairs.

At the beginning of 1949 the Architect to the L.C.C. (then Robert Matthew) set up a new Reconstruction Area Group¹ in the Planning Division of his Department to deal with this exceptional problem. In the meantime the 1947 Town and Country Planning Act had been passed, and out of 100 possible areas eight were selected for inclusion in the Development Plan,² three of them being those already described, and the remaining five being the South Bank (288 acres), the Elephant and Castle (40 acres), Bunhill Fields (42 acres), and two areas in Lewisham and Woolwich (112 acres).

The new group's most pressing task was in connection with Neighbourhood 9 or Lansbury in the Stepney/Poplar area, as it had been decided to develop the first stage of this neighbourhood for the Festival of Britain Exhibition of Live Architecture. It was intended as something of a planning laboratory, and many lessons were learned from it, first in the planning and construction stages, and later as a live entity. It is not possible to give a description of this experience in a general paper of this kind, and in any case it is only now that the neighbourhood is beginning to approach full realisation.

The Lansbury Neighbourhood plan has been reviewed and modified in detail from time to time, and neighbourhood plans of the same flexible type have been prepared for the other neighbourhoods in the Stepney/Poplar area. Layout design, based on the County of London Plan's theories of mixed development at 136 persons per acre, has evolved towards the now familiar arrangement of enclosed squares or streets

¹ ARCHITECTURAL DESIGN, May 1956, 'Comprehensive Development Areas.'

² See the Analysis of the Administrative County of London Plan, 1951.



Fig. 1. War devastation

ROTTERDAM

Rotterdam is one of the world's great seaports, and before the war it had a pushing, thriving centre, as untidy as a Dutch city could be. In May 1940 the whole central area disappeared (Fig. 1), leaving only the Town Hall, Post Office, and brand-new Stock Exchange, diagonally left to right, facing Rotterdam's main street, the Coolsingel.

The Rotterdam planners, led by Mr. Van Traa, and confident in the public support and the public ownership of all the land, produced a succession of comprehensive schemes within an overall city plan, improving as they went along. Here (Fig. 2) is one of the large three-dimensional models, which has the Coolsingel on the left, the new Lijnbaan pedestrian shopping precinct in the centre and a group of high flats on the right. The air photograph (Fig. 3) shows the major part of the scheme completed. Beyond the Lijnbaan is the multiple store group, with the remarkable new Bijenkorf Store by Marcel Breuer, top left. In the foreground is a theatre and a cinema, and on the right the high flats rise up with shops on the ground, and offices on the lower floors. Excellent as the scheme is, it could have been even better, notably by using the flat roofs of the low buildings as an upper level deck where space is so limited. The whole area at ground level illustrates how important is good architectural design coupled with careful attention to detail.

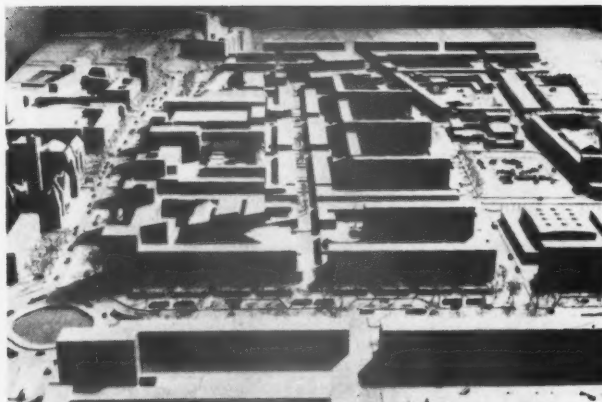


Fig. 2. Model of the new Rotterdam



Fig. 3. The new Rotterdam

of houses for large families, squares or 'places' of four-storey maisonettes for medium-sized families, and for small families tall towers of flats or maisonettes associated with the new open spaces.

It should be remembered that redeveloping an area of this size with a planned population of nearly 100,000 people is something equivalent to creating two new towns, but with the added complications of an existing physical, economic and social environment to contend with. The number of different developing agencies is very large and progress in the various neighbourhoods has inevitably been uneven. Although housing for instance has gone ahead rapidly, other facilities, such as educational buildings and open spaces, have lagged behind owing mainly to Government financial restrictions. But enough has been completed, particularly in Lansbury and St. Anne's neighbourhoods and the King George's Field's Open Space, to be able to see the broad intentions and significance of comprehensive redevelopment in practice over a large area.

So far as the central area type of comprehensive development areas are concerned, that part of the South Bank left vacant by the 1951 Festival of Britain saw the first

attempt at layout design. Among the planning principles which were adopted were an inter-related multi-level communications system (garaging at lower level, access at ground floor, pedestrians on upper level walkways), the grouping of the large public and semi-public buildings around main pedestrian squares, and the careful siting of one high building as a vertical element in the scheme. Then, in conjunction with the City Planning Officer, a scheme for the Barbican area in the north part of the City of London was prepared. It was thought that this area would be occupied largely by private commercial developers and so it was laid out in the form of a series of 'New York Lever Building' type units, i.e. tall towers with low raised platforms. These platforms were to have shops, public houses, etc., on their roofs and were all to be connected so as to form a continuous upper level pedestrian system. In the heart of the area a central area type residential group was suggested around the ancient St. Giles Church, which had survived the bombing. The City Corporation took this proposal further by appointing Messrs. Chamberlin, Powell and Bon as consultant architects for this residential group, which was then increased

in area and designed as a detailed architectural project integrated with the overall scheme. Several of the office and commercial buildings in the Barbican area are now under construction or have been officially approved, so that very soon the new principles will be seen in practice.

Another project of national importance is the St. Paul's precinct, where the City Corporation appointed Sir William Holford to prepare a layout around the Cathedral. This scheme solves very well the extremely delicate problem of the western forecourt, and in its proposed office development to the north also uses an upper-level plate form beneath which is extensive garage space.

The redevelopment experience of the three cities I have illustrated led me to the broad conclusions which I set out in my first article. In all three new legal powers were necessary to acquire extensive areas of blitz and blight, a full measure of financial assistance from central government was required (and was not always forthcoming), the City Fathers have for the most part been practical visionaries, and new kinds of technical organisation were evolved to deal with the special problems of comprehensive development.



Fig. 2. The County of London Plan, 1943

Fig. 3. Densities and Land Use study from the County of London Plan

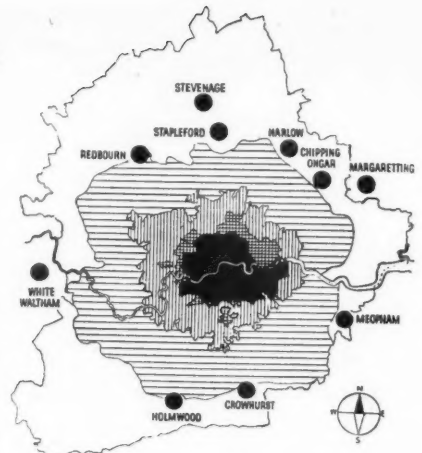
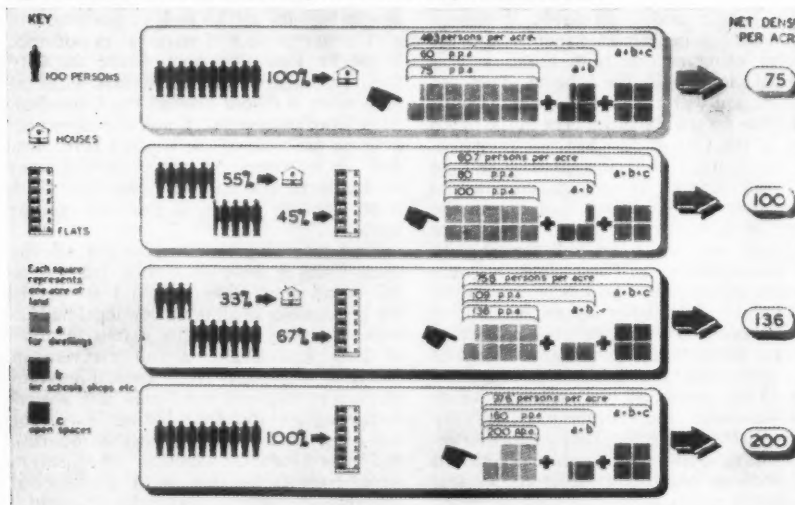


Fig. 1. The Greater London Plan, 1944

The Greater London Plan (Fig. 1) is the basic regional document which is fundamental to urban renewal. In this the main city proposals were set out in the famous County of London Plan (Fig. 2), here illustrated by its social and functional analysis, which not only shows London's triple core of Westminster, West End, and the City, but also the recreation of London's submerged communities. In the plan many new planning principles were evolved, notably those concerned with residential areas, of which that dealing with densities and land use (Fig. 3) is typical. These principles were then applied to a number of reconstruction areas. This model of Stepney (Fig. 4) shows comprehensive neighbourhood planning using the principle of mixed development of houses and flats at a density of 136 persons per acre. Under the 1947 Town and Country Planning Act eight areas of comprehensive development (Fig. 5) were proposed by the L.C.C. They included Stepney/Poplar, the South Bank, and parts of the City (with the City Corporation); these are shown in more detail on the following pages. All were prepared by the L.C.C. Architect's Department, except St. Paul's, which was commissioned by the City Corporation from Sir William Holford, and the Barbican which is a joint L.C.C./City Corporation scheme, the residential area being done by Messrs. Chamberlin, Powell and Bon.

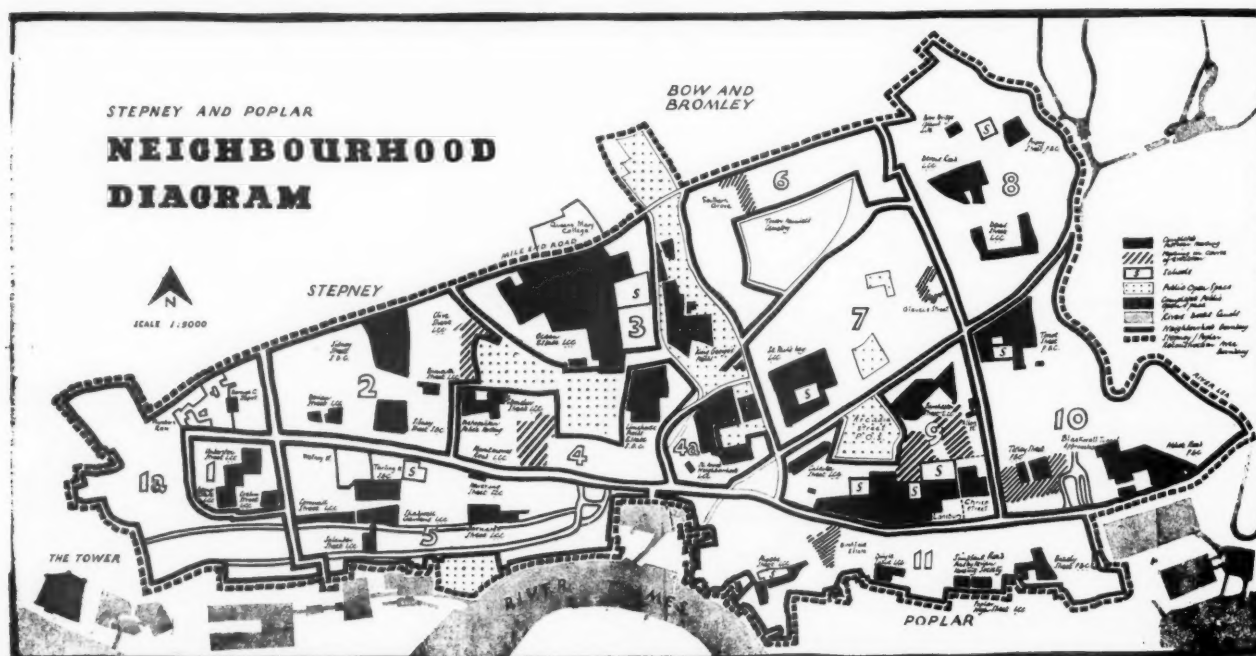


LONDON (2): The East End

This (1) is a general view of the East End after the devastation of the war. Before the war it was characteristic of many of the decayed inner areas of great cities, and had all their defects, including slums, mixed uses, an obsolete road pattern, and a grave shortage of space for social purposes. The bombing not only cleared large areas of buildings, but also halved the population. In the County of London Plan it was suggested as a reconstruction area, planned with communities and neighbourhoods at a net density of 136 persons per acre. After the war it was designated as a reconstruction area by the L.C.C., and it is now the Stepney/Poplar comprehensive area.

This progress diagram (2) shows how the community and neighbourhood pattern has been maintained, with modifications, such as the creation of a new neighbourhood in St. Anne's (shown as 4a). The diagram also shows how housing has dominated the post-war building programme, while other social facilities, such as schools and open spaces, have lagged behind. In spite of these and other difficulties continuous planning co-ordination has been maintained.

(1) Air view of the bomb-damaged East End



(2) Neighbourhood progress diagram of the Stepney/Poplar area. Completed housing schemes are shown in black, those in progress hatched. Completed schools are outlined and indicated with an S, open spaces with dots. The area within the dotted line is nearly 2,000 acres, with a planned population of approximately 100,000.

Current planning standards for the area are: residential density—136 persons per acre, with car parking at one car space to four dwellings; commercial and industrial plot ratio $2\frac{1}{2}$ to 1, with car parking at one car space to 2,500 sq. ft.; public open space $3\frac{1}{2}$ acres per 1,000 people; secondary and primary schools at approximately $5\frac{1}{2}$ and $2\frac{1}{2}$ acres respectively.

LONDON (3):

The Poplar Community

The Poplar Community is part of the Stepney/Poplar comprehensive area, and is shown within dotted lines in the air photograph (1). It suffered severely from war damage, as it is almost surrounded by docks and industrial development. As with Stepney, its people have a close sense of community and strong local loyalties. The lower photograph (2) shows the overall community model. Its three neighbourhoods (see the Stepney/Poplar progress diagram, page 246), including Lansbury, lower left, can be seen divided by the East India Dock Road and the railway line, running horizontally across the centre of the model. Some facilities such as primary schools and clubs are included in each neighbourhood, others such as the large Crisp Street shopping centre, in the centre of the model, are on a community basis.

Rebuilding such a community as this, with a planned population of nearly 30,000, is equivalent to a small new town, and a large number of developers share in the task. In addition to the public services provided by the County and Borough Council, there are the Central Government agencies such as the Electricity and Gas Boards, Post Office, etc., religious and welfare organisations, and many private developers.

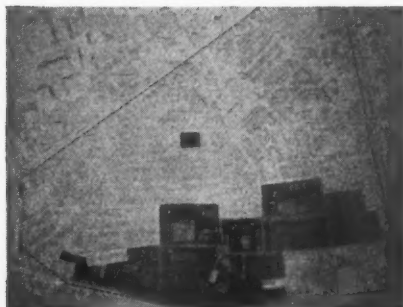


Photo: Aerofilms Limited

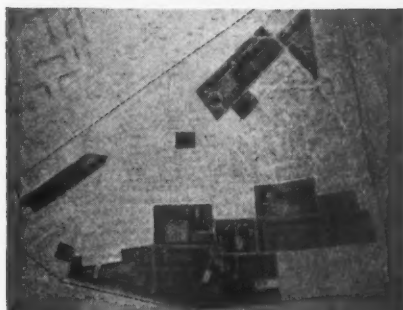
(1) Air photograph of part of the Stepney/Poplar area, showing the boundary of the Poplar Community in dotted lines

(2) The Poplar Community model





1



2



3



4

LONDON (4): The Lansbury Neighbourhood

The Lansbury Neighbourhood came into the public eye as a result of the L.C.C.'s decision to use its first stage as an Exhibition of Live Architecture during the Festival of Britain in 1951. One of its main objects was to show the essential social services as an integral part of neighbourhood development. In the first stage (1) they included secondary, primary, and nursery schools, two churches, part of the main community shopping centre and market, an old people's home, a small open space, four pubs, and residential development in the form of two- and three-storey terrace houses, four-storey maisonettes, and three- and six-storey flats. A community health centre was also planned but not built, and a number of other elements of the plan had to be postponed. The second stage (2) consisted of three housing sites in different parts of the neighbourhood, the Barchester Street scheme signalling the important design change in flats to eleven-storey point blocks. The third stage (3) is now in progress and has joined the last scheme to the first: it will also provide the first part of the important community park.

The fourth stage (4) will complete the planned redevelopment of the demolished and badly decayed areas.

A recent photograph (5), taken from one of the completed point blocks, shows the large new mixed developments scheme in progress which will join the two separated parts of the neighbourhood.

In the centre are temporary shops built to assist in relocation. All the land between the blocks will become green park.



5



1



2



3

LONDON (5): St. Anne's Neighbourhood

In the County of London Plan most of this neighbourhood was to have formed part of the great linear Parkway joining Victoria Park to the Thames. As this proved impossible to achieve, the Parkway was terminated in a new neighbourhood called St. Anne's after the nearby Hawksmor church. The air photograph of the bomb-damaged area (1) shows up a number of the hard facts of urban redevelopment, such as railway viaducts, gas works, indiscriminately sited small industries, and tenements, with St. Anne's and its churchyard forming a small oasis of green in the foreground. The photo montage (2) shows the new

neighbourhood and its accompanying Parkway, both now well on the way to completion, fitted into the surrounding area in order to heighten the contrast. The model (3), although in part somewhat out of date in terms of building design (the legal procedure caused considerable delays); shows the Parkway, left foreground, ending in a play area. On either side are enclosed greens, the nearer one containing an excellent and very popular play-sculpture by Trevor Tennant, while in the centre is a village of large family houses. At the top is the new shopping centre. Nearly all the housing to the left of the point block is completed, together with the shopping centre and the foreground open space.

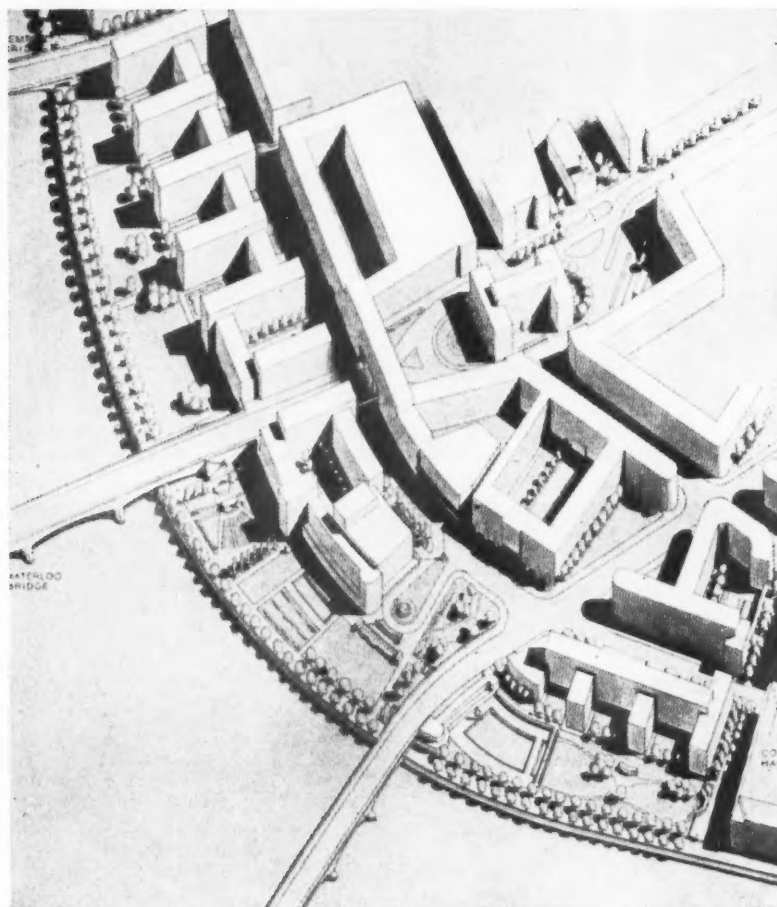
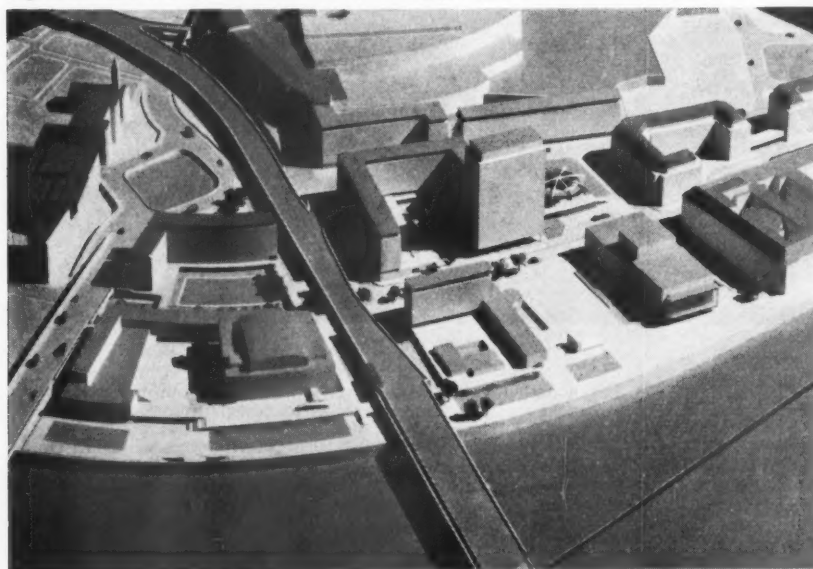


Fig. 1. The County of London Plan's South Bank scheme, 1943

Fig. 2. The L.C.C.'s South Bank scheme (first stage), 1953



LONDON (6): Central Schemes

Work on the first stage of the South Bank central development area was started when the site was cleared for the 1951 Festival of Britain. The County of London Plan had outlined a scheme for the comprehensive redevelopment of the river front (1), but it was not until the Festival was over that a new scheme (2) was prepared. Behind the riverside open space is a series of entertainment buildings, including the Royal Festival Hall and a cultural centre below Hungerford Railway Bridge, with the National Theatre and a hotel grouped around a place above it. Behind these buildings is an office group, one unit of which was suggested as a high building which would face the place, and beyond it, the river. This was the first scheme which was designed with an upper level walkway system and large-scale basement garages. It was also hoped to add a helicopter landing ground to the existing rail, underground and road and river communications.

The next large-scale central redevelopment was the Barbican Area, and the joint L.C.C./City Corporation scheme, accepting a number of existing and approved elements, was based on the idea that the site should be developed for a combination of office and commercial purposes, and with a new central area residential group.

For the office and commercial area a number of tall towers was suggested with low-level platforms which would be interconnected to form a complete upper level pedestrian system, complete with shops, cafés and pubs (3). Later the City Corporation commissioned Messrs. Chamberlin, Powell and Bon to prepare a detailed layout for the residential area and this they carefully integrated with the overall plan (4).

For the St. Paul's precinct the City Corporation commissioned Sir William Holford. His scheme (5) shows a dignified but informal square or 'place' for the west front of the Cathedral, and an office group to the north with tall buildings and an upper level pedestrian square.

ACKNOWLEDGMENTS

I would like to thank the following for their co-operation and willing help in regard to the illustrations:—

Mr. Hubert Bennett [F], Architect to the London County Council
 Mr. H. Anthony Mealand [F], City Planning Officer, City of London
 Mr. Arthur Ling [F], City Architect and Planning Officer, Coventry
 Mr. Van Traa, Director, Stadsontwikkeling en Wederopbouw, Rotterdam
 Professor Sir William Holford [F]
 Messrs. Chamberlin, Powell and Bon [F/A]
 The Netherlands Embassy Information Service
 The American Embassy Information Service
 Aerofilms, Ltd.
 K.L.M.

CORRECTION

On page 200, April JOURNAL, Mr. Walter G. Bor [A], who spoke in the Discussion, was misreported. For 'abstract planner', read 'architect planner'.

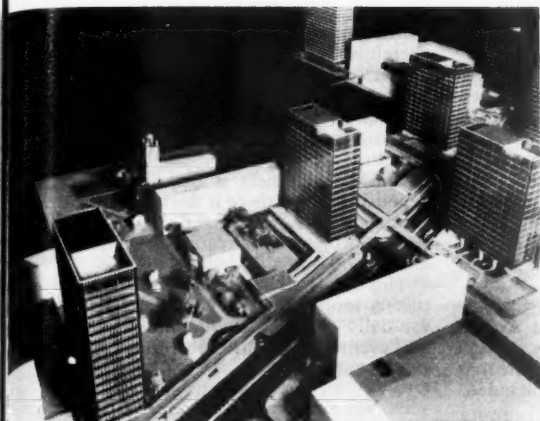


Fig. 3. A detail of the joint L.C.C./City Corporation Barbican scheme, showing the upper level walkways



Fig. 4. The Barbican scheme with Messrs. Chamberlin, Powell and Bon's residential proposals



Fig. 5. Sir William Holford's scheme for St. Paul's precinct



Fig. 6. The war-damaged City with the St. Paul's and Barbican areas outlined

Correspondence

THE KALENDAR

The Editor, R.I.B.A. Journal

Dear Sir,—I should like to endorse the views expressed by Mr. Collins in your April issue of the JOURNAL regarding the publication of the Kalendar every third year only.

Many members, like myself, have had occasion to change their address since the last Kalendar was published and may have found, as I have, that a considerable pile of correspondence has accumulated at their previous address.

Since many firms and other organisations take names for their mailing lists from the Kalendar itself—not from any Supplement or notice appearing in the JOURNAL—and doubtless will continue to do so until the next Kalendar is published, there is no satisfactory way of stopping the flood of trade and other literature to the wrong address.

One may, of course, rely upon the good nature of one's successor to forward correspondence, but the most considerate occupier is likely to tire of up to three years re-addressing of mail. One may even attempt to write to all possible sources of correspondence informing them personally of a new address, but this would be a hopeless and expensive occupation. One may, more reasonably, instruct the G.P.O. to forward all mail, but this too involves considerable expense over a long period.

The provision of an up-to-date Kalendar is a service which the annual subscription, already high enough, should cover without incurring members in additional expenses caused wholly by lack of this service.

I strongly urge that the decision to publish the Kalendar so infrequently will be reversed in the near future.

Yours faithfully,

J. B. JACKSON [4]

ARCHITECTURAL EDUCATION

Sir,—A great deal is being said at present about architectural education and there may be many like me who have misgivings about the policy now likely to be adopted.

As I think it is relevant, may I say that I entered the profession in 1922 after having matriculated at the University of Durham and having read first year B.Sc. at this University. My academic qualifications at that time were considerably higher than the R.I.B.A. requirements for becoming a Probationer. I was soon to discover that this was a handicap to my progress in the profession, rather than otherwise. The boys (the majority in those days) who had left school much earlier than I and had had a more practical training in building had, I think, a considerable advantage. To gain practical experience on building works (few offices or schools of architecture gave any facilities for this kind of experience), I had to give up much of my private time seeking the experience I wanted and gaining access to building works in progress as best I could.

Does the profession as a whole really believe that higher academic standards will ensure better architects for the future? Are we merely trying to fall into line, but rather late in the day, with other professions in this (the medical and legal professions for instance)?

My own personal view is that we are putting the cart before the horse in our training methods. Knowledge of practical building and structure should surely come before the added 'something' which converts merely good building into works of architecture.

It may be, and it seems to me, that the saddest thing that has happened to this vocation was when 'professionalism' crept in. Alas! in our country architecture has for some time been at a very low ebb indeed and for the most part still is.

I am afraid I know nothing about the training of the greatest architects of other countries. I have no doubt whatsoever that this is fully understood, and has been discussed by the R.I.B.A. educationalists when propounding the future education policy here in this country. However, there may be many architects who have not the time to attend meetings or read about these matters. Could the profession as a whole be told very simply, perhaps through the pages of the JOURNAL, a little more about this? We might even be converted to the proposed R.I.B.A. policy for the education of future architects!

Yours faithfully,

G. L. THOMPSON [F]

THE PARKING PROBLEM

Dear Sir,—It is accepted that the most serious problem facing London today lies in the question of adequate car parking, not only for short time parking and for business hours, but also for permanent residents. Suggestions have been made ranging from multi-storey garages, which are expensive to build, to car parks under London squares.

At the same time I believe that there is another possible solution if the question of compensation is faced with realism.

A greater part of London is built with service roads containing mews properties between terraced blocks of houses. In the more fashionable areas the old stables and coachmen's houses have been converted to small and expensive properties and innumerable small garage businesses flourish in other parts. Cars are however accommodated only on the ground level and these mostly belong to residents in the adjoining houses. Almost all of these service areas open out at each end on to a main road, which would solve the problem of one way-traffic in any mews development.

My suggestion is that wherever possible these areas should be acquired and in the place of the heterogeneous collection of mews properties a three-storey structure should be erected to take cars alone. On the lowest floor, which in most cases is on the basement level of the adjoining terrace houses, the garage business could be re-established and the two upper floors used

for ordinary daily car parking. The average available width would be about 90 ft. and therefore on two floors every 15 ft. of available length would accommodate about six cars for parking. Ramping down from the main road to the lower level or up to the top floor would be simple and the structure inexpensive to build.

The real problem is dispossession and rehousing where there is dormitory accommodation in the mews, and the question of mews properties already developed as expensive houses.

This may well make my suggestion completely inoperative but the appalling need for daily car accommodation in London will eventually require most drastic action by the authorities.

Yours faithfully,

KENNETH ANNS [F]

BUILDING SOCIETIES AND THE DESIGN OF HOUSES

Dear Sir,—This matter has been raised of late in your JOURNAL, the Popular Press and certain of the technical journals, wherein attention has been drawn to the fact that building societies will not be doing their duty to their investors if they continue to put money entrusted to them in outmoded houses in the mistaken belief that they are playing safe.

For many years past I have drawn attention to the fact that the policies of nearly all building societies, from the buildings standpoint, are out of date and badly need re-orientating, and that one of the best ways to do this is to have architects elected to the boards of directors (they are conspicuous by their absence in nearly all our building societies). By doing this they could press the many advantages of the architect designed and supervised buildings and thus secure better houses for the owners and better security for the societies.

To this end, I would suggest the formation of a group of architect investors, and would invite such persons to contact me, giving the names of the societies in which their funds are invested, so that a meeting can be called to discuss the next step to take in dealing with this very important matter.

Yours faithfully,

SIDNEY LOWETH [F]

JOURNAL WRAPPING

Dear Sir,—When my wife used to struggle to open her BRITISH MEDICAL JOURNAL, and I read letters to the editor of that journal complaining of the frustration involved in this procedure—so much so that several writers declared that the unopened roll was going straight into the waste paper basket—I had just that little extra pleasure in neatly pulling open the R.I.B.A. JOURNAL. Must the R.I.B.A. JOURNAL now depend on this toilet paper technique for opening? Opening has been simplified by the wrapper being burst open in the post on one occasion, but it usually involves tearing the cover of the JOURNAL, and only rarely does it open as intended.

Yours faithfully,

IAN BEGG [4]

Technical Films

REPORT of a meeting arranged by the Film Sub-Committee of the Public Relations Committee on 3 March 1959 to discuss technical films with representatives of the Building Industry and other interested bodies.

MR. STANLEY MEYRICK [A], Chairman of the Film Sub-Committee welcomed those present and explained that the R.I.B.A. operated Appraisal Panels which see most of the trade films likely to interest architects and publish from time to time critical notices of them in the Institute's JOURNAL. The proportion of these notices which could be described as favourable was very small, the majority of the films seen being for one reason or another ineffective in their appeal to architects.

The Panels were concerned about this. They were seeking an opportunity at this meeting to discuss those characteristics of trade films which they found unsatisfactory and to suggest ways in which approaches to architectural audiences could be made more compelling.

MR. WILLIAM HOWELL, D.F.C. [A], spoke for the Panels. He said they were aware that as architects they represented only one section of the public at which most of the films they saw were aimed, and they did appreciate that film sponsors could not be expected to make films exclusively for architects, nor did they want them to. But architects influenced buying very considerably in the building trades and films which failed to impress architects were certainly missing an important sector of their market.

Films were seen by architects at every stage of their career, but it was in their student phase, when they were most receptive to new ideas and to lively techniques of presentation, that they were also most critical. As wartime experience in the Services and the development of their potentialities in other professions since the war amply demonstrate, films are a highly efficient means of imparting instruction. But they are not very much used in schools of architecture. During the last two years an attempt had been made to determine why this should be, and a number of schools had taken part in a controlled experiment in which programmes selected from appraised films had been shown regularly. The opinions of both teaching staff and students had been sounded and it had become clear that film would be much more used in schools if good teaching material were readily available on film. But, Mr. Howell pointed out, industry is the source of most of the films and most of the films set out to advertise, by methods which do not always credit the audience with a very high degree of intelligence, the products made or sold by their sponsors. Films of this sort he maintained, not only fail to sell, they build up an active sales resistance in the minds of men only too well aware of the crude technical tricks by which it is intended they should be beguiled. 'Information' films, he was convinced, would be

far more effective. The records of the Appraisal Panels showed staggering gaps in the range of subjects so far covered, and he was sure there was a big future for the industrialist who was far-sighted enough to fill these gaps with first class technical films—basic principles of engineering, acoustics, timber behaviour, movement of moisture and heat in building. Such films would never 'plug' a product; they would avoid 'blarney' delivered by professional commentators unsure of the vocabulary they were using; they would dispense with unsuitable music, and choose architectural examples with care and discretion; they would be made specifically for a technically well-informed audience, and would deal with principles and application, using the best possible photography in the most appropriate ways. The reputation which films of this order would gather would ensure them the widest audience and the name of the sponsoring firm would be as familiar to those in the building professions and trades as that of Shell to motorists.

As an example of the kind of thing he meant, he then showed a short extract from the Shell film 'The Forming of Metals' which was one of the many 'information' films by which the company maintained and enhanced the reputation it built up between the wars with the 'Shell Guides'. The only mention of oil in this extract was to explain that it was not required as a lubricant in the operation being shown.

MR. FRANCIS BADEN-POWELL [Student] demonstrated by means of a graph that of all the films seen by the Appraisal Panel over a period of years, only a very few could be confidently recommended as worth seeing to audiences of professional people: rather more were 'of interest' and the remainder, for one reason or another, were 'not recommended'. He read extracts from comments from the schools taking part in the experiment described by Mr. Howell, which showed that the Panels were by no means too harsh in their judgments, and though he recognised, as a student himself, that student opinion was liable to be exaggerated, he made it clear that the rare good film made its mark as effectively in the schools as it did elsewhere. He suggested there were many subjects not yet adequately covered on film.

The R.I.B.A. would like to see new films on several topics as well as replacements for many of the out-of-date, inaccurate or otherwise unsatisfactory information films that already exist, and would be glad to offer any guidance it could to firms who decided to re-model their film-making policy on these lines.

MR. GONTRAN GOULDEN [F] said that a yearly average of about 40 films was shown in regular once-a-week lunchtime sessions at the Building Centre. The audience, mainly architects and surveyors of all ages including some students and assistants in offices, varies from 100 to 20. The attendance does not appear to be related to the films being shown, no firm in this field being either well known or particularly

remarkable for its film productions. The effect of these weekly showings was depressing. Far too much film time—and money—appeared to be wasted on unnecessary 'presentation'; the dressing up of simple ideas in historic or picturesque trappings; the 'human interest' story; and the use of inappropriate and unnecessary music. An audience which gives up its lunchtime to see trade films should be treated seriously and in a straightforward way. This would be not only infinitely more effective; it would be much cheaper!

MR. JOHN HUNTLEY of the British Film Institute pointed out that all the big industries in this country except the building industry have at one time or another produced films of great significance, some like 'Night Mail' (G.P.O.) and 'Song of Ceylon' (Tea Bureau) winning international awards, and still playing to big audiences after 20 years or more of circulation. He felt that the building industry was in danger of missing a great opportunity in this field, but that to achieve success they must think out their policy afresh, decide clearly what audience they wished to reach and not allow the intrusion of casual ideas to confuse otherwise carefully thought out scripts. The best way to gain the respect of the outside world for building industry films was first to command the respect of the industry itself.

MR. EDGAR ANSTEEY said that student audiences were notoriously difficult to satisfy; the best of documentary films was liable to be ribaldly received if it caught students in an inappropriate frame of mind. Nevertheless, he recognised that there was substance in the criticism which had been made and could not regard such criticism as anything but healthy. One must however, view it in the light of what was feasible, and money played a commanding part in this. He wondered if a possible solution lay in re-editing. Film material might be made up in a variety of ways each designed for a specific part of the audience, thus making the maximum effective use of all the material shot while avoiding some of the pitfalls which had been mentioned. He also suggested that contractors might very usefully make 'case history' films of major building projects. Such films would combine historical record with instruction for students and technical audiences, and at the same time serve as admirable prestige material especially for public relations abroad.

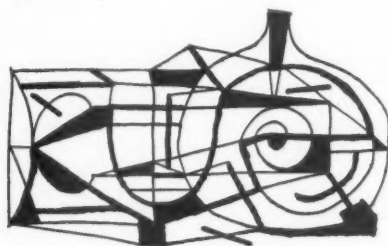
In subsequent discussion, MR. R. J. GREGG of the Gas Council made the point that industry would not sponsor films unless it could know in advance fairly precisely what order of audience numbers could be guaranteed. Film-making was an expensive business and it must be justified by a substantial return on the outlay. Mr. Goulden said that film-making was expensive because it was so often done in the wrong way. Some of the best films shown at the Building Centre were those made by the Building Research Station and he was confident that no money was wasted on them. There was in fact a very large

potential audience—anything up to 15,000 architects and as many as 5,000 architectural students alone quite apart from the other professions, but they could not be expected to waste their time looking at expensive but meaningless films. He believed there was a strong case for the cheap film.

MR. J. ROGERS, Film Officer at the Building Research Station, said that before they embarked on their series of instructional films they surveyed the 'market' and found it adequate. Bookings of their films which continue to be high, have amply justified the expenditure, which was, by commercial standards very modest indeed in the early days. The lively interest of the building public had encouraged them to advance from black and white to colour, and this had increased their production costs, which were still however moderate when measured against the 'return' as shown by correspondence and visitors to the Station.

MR. JOHN STILLMAN [4] asked what audience, other than architects or surveyors, could be expected to concern itself with films which discussed products for use in building. The general public would admittedly be interested in gas cookers and appliances, but would it want to worry about gas barrel or the intricacies of gas fitting? Who would specify a particular brand of pre-cast floor? Why should the lay public be thought to be interested in such things? These were matters for the professional, and the professional was clearly not being very responsive to the kind of film at present being addressed to him.

MR. A. W. YEOMANS of the London Master Builders' Association took up this point and said that it indicated clearly that film sponsors in the Building Industry needed advice. Should not a study committee be formed to go into the question of what kind of films were required, preferably under the auspices of an independent body, such as the Building Centre, on which could be represented all the interests—sponsor, manufacturer and audience—who were concerned with this problem. Such a committee might also be able to co-ordinate what was wanted with what was offered and thus ensure that sponsors' money was expended to the best advantage. This idea was supported by Mr. Anstey, Mr. Huntley, Mr. Deacon of Aluminium Development Association and by Miss Dowling of Shell, and the Chairman said that his Committee would certainly examine it at the earliest opportunity.



How Investment Allowances work

OLD BASIS 15 per cent initial allowance			NEW BASIS 10 per cent investment allowance plus 5 per cent initial allowance		
	Allowances	Written down value		Allowances	Written down value
	£	£		£	£
Year 1			Investment ..	10,000*	
Initial	15,000		Initial	5,000	
Annual	2,000	83,000	Annual	2,000	93,000
Year 2			Annual	2,000	91,000
Annual	2,000	81,000			
Year 3			Annual	2,000	89,000
Annual	2,000	79,000			
Year 42 (Annual)	2,000	1,000	Annual	2,000	11,000
Year 43 (Annual)	1,000	nil	"	2,000	9,000
Year 44			"	2,000	7,000
Year 45			"	2,000	5,000
Year 46			"	2,000	3,000
Year 47			"	2,000	1,000
Year 48			"	1,000	nil
Eventual total ..	100,000	nil	Eventual total ..	110,000	nil

* This investment allowance is a remission of tax and is therefore not deducted when computing the written down value of assets

The revised capital allowances for a £100,000 new industrial building

THE RATES of investment allowance introduced in the Budget were 10 per cent for expenditure on the construction of new industrial buildings and 20 per cent for expenditure on new plant and machinery. (These were the rates in force under the 1954 Act but withdrawn in February 1956.) In addition initial allowances of 5 per cent on industrial buildings and 10 per cent on new plant and machinery will be made. These two allowances together take the place of the previous initial allowances of 15 per cent on industrial building and 30 per cent on plant and machinery. Capital expenditure on new agriculture and forestry buildings and works also becomes entitled to an investment allowance of 10 per cent.

The initial allowance is simply a form of accelerated depreciation, which allows the owner of a new factory or machine to write off a higher proportion of its total cost in the year of acquisition than in future years. The investment allowance has the same effect in the initial year, but makes no difference to normal depreciation in later years.

Put simply, it amounts to an eventual remission of income and profits tax of £200 for every £1,000 an industrialist spends on new plant, or £100 for every £1,000 spent on new buildings.

While the effect of the new arrangements on expenditure on plant and machinery will be felt after the first year, they will not be noticed for expenditure on new buildings

for over 40 years. The table above shows what the change means for an industrial building of £100,000 on which the depreciation allowance would be 2 per cent of the prime cost or £2,000 a year. In fact, there is no difference in the annual allowance until the year 43 after which the building is completely written-off for tax purposes on the old basis. On the new basis, the allowance carries on to the year 48, giving an extra £10,000 in allowances which are gained over the years 43 to 48.



HOUSE PURCHASE LOANS

Architects are invited to consult the Manager of the Agency when loans are required for house purchase so that the most suitable arrangements for the particular case may be worked out.

Loans on security of modern houses and bungalows of traditional construction are obtainable on competitive terms. Please send inquiries to:

The Manager,
A.B.S. Insurance Agency, Ltd.,
66 Portland Place,
London, W.1.
(Telephone: Langham 5533.)

Notes and Notices

NOTICES

Ninth General Meeting, Tuesday 26 May 1959 at 6 p.m. The Ninth General Meeting of the Session 1958-59 will be held on Tuesday, 26 May 1959 at 6 p.m. for the following purposes:

To read the Minutes of the One Hundred and Twenty-first Annual General Meeting held on Tuesday 5 May 1959.

To present the Royal Gold Medal for 1959 to Professor Ludwig Mies van der Rohe [*H.C.M., U.S.A.*] (Light refreshments will be provided before the meeting).

Tenth General Meeting, Tuesday 16 June 1959, at 6 p.m. The Tenth General Meeting of the Session 1958-59 will be held on Tuesday 16 June 1959 at 6 p.m. for the following purposes:

To read the Minutes of the Ninth General Meeting held on Tuesday 26 May 1959; formally to admit new members attending for the first time since their election.

To read the report of the Scrutineers appointed to examine the voting papers for the election of Council for the Session 1959-60. In place of the Discussion on Professional Status the President will talk about his recent tour in Africa. (Light refreshments will be provided before the meeting.)

Session 1958-59. Minutes VIII. At the Seventh General Meeting of the Session 1958-59 held on Tuesday 7 April 1959, at 6 p.m., the Hon. Lionel Brett, M.A., Vice-President, in the Chair.

The meeting was attended by about 95 members and guests.

The Minutes of the Sixth General Meeting of the Session held on Tuesday 10 March 1959 were taken as read, confirmed and signed as correct.

The following members attending for the first time since their election were formally admitted by the Chairman: *As Fellows*: O. C. F. Carey, H. J. Coates, Gontran Goulden, G. S. Hay, R. J. Howrie. *As Associates*: T. A. Cross, J. S. Dinsdale, M. C. Dunkley, J. K. Fairbanks, A. E. Honey, C. E. Howell, A. G. Kimberley, J. M. Ryan, D. C. Williamson.

Mr. Bryan H. Harvey, having read a paper on 'Early Industrial Architecture', a discussion ensued and on the motion of Mr. Nigel Hannen, seconded by Mr. Donald H. McMorran, A.R.A., F.S.A. [F], a vote of thanks was passed to Mr. Harvey by acclamation and was briefly responded to.

The proceedings closed at 7.40 p.m.

Cessation of Membership. Under the provisions of Bye-law 21 the following has ceased to be a member of the Royal Institute: *as Associate*: John Desborough Watt.

British Architects' Conference, Cardiff, 11-13 June 1959. A cordial invitation is extended to all members and Students of the R.I.B.A., the Allied Societies and the Architectural Association to attend the Conference to be held at Cardiff from 11-13 June. Full details of the programme and the application form were enclosed with the April issue of the JOURNAL. Application forms should be completed and sent to the Secretary, R.I.B.A., as soon as possible but in any case not later than 20 May.

R.I.B.A. Kalendar 1959-60. The 1959-60 issue of the Kalendar will be published in the autumn and the last day for receiving changes of address for inclusion in that issue is 30 May. This date applies to all members and Students, both in the United Kingdom and overseas.

The R.I.B.A. Appointments Department. Members and Students of the R.I.B.A. and the Allied Societies are reminded that the services of the Institute's Appointments Department are available to employers requiring assistants and to assistants seeking salaried employment.

Employers are invited to notify the Secretary of vacancies in their offices, giving details of the work to be done, the qualifications required and salaries offered.

Assistants should preferably call at the offices of the Appointments Department, but if this is not practicable they should obtain from the Secretary an application form, which when completed and returned to the Institute will enable the Department either to send the applicants particulars of vacancies suitable to their qualifications and requirements or submit their names for vacant posts.

Members and Students seeking official appointments should note that normally these are fully advertised in the weekly professional press, and that therefore the Appointments Department do not as a rule notify them to those on the register.

The Institute will also be glad to advise on most matters concerning architectural employment, including overseas appointments.

The Acceptance of Pupils and Junior Assistants and the Probationership of the R.I.B.A. The Board of Architectural Education have noticed that the practice still persists of members accepting pupils or junior assistants without satisfying themselves that such pupils or junior assistants have reached the necessary standard of general education for the Probationership. Members are reminded that it is most important that they should not take boys or girls into their offices unless they possess one of the qualifications laid down.

A list of the recognised examinations can be obtained on application to the Secretary, R.I.B.A.

BOARD OF ARCHITECTURAL EDUCATION

R.I.B.A. Examination in Professional Practice and Practical Experience. The Examination in Professional Practice and Practical Experience was held in London and Edinburgh on 9 and 10 April 1959. Of the 178 candidates examined, 164 passed and 14 were relegated. The successful candidates are as follows:—

Adkin: George
Albiston: A. W.
Aldrich: B. J.
Bailey: James
Benstead: V. S.
Binnington: J. R.
Bishop: R. E. J.
Blee: A. D.
Bowman: J. D.
Boyer: S. N.
Bruce: H. J.
Bruce: R. K.
Bryans: J. K.
Buckingham: P. F.
Bunton: Samuel
Burniston: J. D.
Byrom: R. A.
Caldwell: A. H.
Calcut: D. A.
Campbell: J. E. C.

Campbell: R. M.
Carr: I. C.
Cashmore: W. F.
Chandler: John
Cheeseman: K. C.
Claridge: Miss M. M.
Clark: N. C.
Clemence: G. P.
Clements: M. F.
Coats: I. H.
Collins: R. S.
Cottle: B. F.
Crane: P. G.
Cramer: W. G.
Croydon: D. A.
Cuming: A. L.
Dalton: J. B.
Davies: J. F.
Davis: C. B.
Davison: Bryan

Dean: P. N.
De Courcy: A. J.
De Silva: M. W. P.
Dorrell: J. R.
Dry: D. W.
Dunn: I. P.
Eaton: H. B.
Edgington: J. A.
Edwards: Douglas
Engering: M. G.
Fairweather: L. S.
Fenner: J. E. A.
Fetherstone: J. M.
Flinders: Alec
Forster: A. R.
Frew: Robert
Gabb: J. K.
Gasiewicz: Z.
Goddard: B. J.
Grayling: B. D. P.
Green: J. D.
Greenwood: A. G.
Gregory: J. L.
Hall: J. F. Gomez
Harrison: Keith
Harvey: J. W.
Hathaway: K. R.
Heatley: M. D.
Hellowell: Michael
Helme: J. D.
Hill: W. H.
Hodgson: Russell
Holliman:
Miss P. G. E.
Hunt: P. D.
Hurley: A. F. W.
James: W. L.
Janes: S. E.
Jones: E. R. P.
Keal: W. H. G.
Lamb: John
Leake: Miss B. V. F.
Lee: B. S.
Louden: A. G.
Lucey: E. G.
MacDonald: A. W.
McGill: I. G.
McGraw: C. W.
Mackley: B. G.
McLaughlin: J. F.
McMurray: S. B.
Marginson: Eric
Martin: A. H.
Meade: P. V.
Mehta: K. N.
Mellor: D. M.
Miller: D. R.
Miller: G. O.
Miller-Williams:
Mrs. Susan
Milnes: W. E.
Milton: W. F.
Mitchell: W. I.

Moody: B. G.
Moore: S. S. S.
Moores: J. E.
Nugent: K. E. T.
Oliver: F. A.
Orton: Mrs. H. W.
Pereira: G. C.
Perrin: G. A.
Perrott: I. O. G.
Perry: V. J.
Phillips: G. G.
Pirn: Rein
Platts: A. R.
Porter: Dennis
Powell: A. R.
Powell: P. K.
Preece: D. T.
Presswell: P. T.
Prew: Raymond
Prior: A. K. E.
Raby: D. P.
Ranadive: S. G.
Raote: S. M.
Roberts: A. F.
Robinson: E. H.
Roseveare: P. C.
Ruane: B. B.
Rumun: Jacek
Ryzowski-Heksel: J.
Sagasti: Valentin
Sanderson: A. M.
Sawyer: J. H. A.
Scott: J. J.
Sefton: A. H.
Senior: T. R.
Sharp: James
Shaw: Eric
Shove: John
Skind: D. M.
Smethurst: John
Smith: John E.
Spillman: W. E.
Stanfield: D. J.
Stobie: G. J.
Storie: John
Taylor: Leonard
Thrasher: P. T.
Uku: V. T.
Upton: A. J.
Vickers: D. A.
Warner: J. H.
Watson: J. C.
Watt: D. H. M.
Watts: A. C.
Watts: A. V.
Webb: K. L.
White: R. J.
Whitehead: John
Worthington: R. G.
Young: B. O.
Young: F. A.
Young: Harold
Zins: S. A.

R.I.B.A. Ashpitel Prize, 1958. Miss Janet Mary Price [*Student, R.I.B.A.*] of 35 Campion Road, Putney, S.W.15, who passed the Final Examination in December 1958, obtained the highest number of marks in the Examinations held in 1958 and has therefore been awarded the Ashpitel Prize.

Miss Price, who is 24 years of age, and was elected a Student, R.I.B.A., in October 1956, received her architectural training at the R.W.A. School of Architecture, Bristol, and the School of Architecture, The Polytechnic, Regent Street, London.

R.I.B.A. Sir Banister Fletcher Prize, 1958. Mr. Derek Yeadon of 6 Pratt Lane, Shipley, Yorks, who passed the R.I.B.A. Intermediate Examination in November 1958, obtained the highest number of marks in the Intermediate Examinations held in 1958 and has therefore been awarded the Sir Banister Fletcher Prize.

Mr. Yeadon, who is 19 years of age, received his architectural training at the Bradford Regional College of Art, Bradford Technical College.

COMPETITIONS

Medical Teaching Centre, Cardiff. Last day for questions: 19 June 1959. Last day for submitting designs: 30 April 1960.

Full particulars were published in the JOURNAL for April, page 219.

Aluminium Street Lighting Columns. Last day for submitting designs: 12 noon, 1 July 1959.

Full particulars were published in the JOURNAL for April, page 219.

New Town Hall, Milngavie, Dunbartonshire. Last day for submitting designs: 30 June 1959.

Full particulars were published in the JOURNAL for March, page 182.

ALLIED SOCIETIES

Changes of Officers and Addresses

Blackpool and Fylde Architectural Society. President, Richard Pye [L].

Buckinghamshire Society of Architects. Chairman, as from 1 July 1959, Cyril Hindle [A]. Hon. Secretary, as from 1 July 1959, A. R. Peadon, A.M.T.P.I. 'Ryemead', Manor Park Avenue, Princes Risborough, Bucks.

Devon and Cornwall Society of Architects. Exeter Branch. Chairman, J. Francis Smith, F.R.I.C.S. [F].

Essex, Cambridge and Hertfordshire Society of Architects. Chelmsford District Chapter. Chairman, K. D. Box [A], Hon. Secretary, Jack Sorrell [A], c/o County Architect's Department, County Hall, Chelmsford. Colchester and District Chapter, Chairman, R. D. Mirrington [A]. Hertfordshire Chapter. Chairman, R. Owen Vine [F]. Southend-on-Sea and District Chapter. Chairman, G. G. Shenstone, M.A. [F]. West Essex Chapter. Chairman, H. R. Lewis [A]. Hon. Secretary, A. W. V. White, A.M.T.P.I. [A], 17 Queens Avenue, Woodford Green, Essex.

Hampshire and Isle of Wight Architectural Association. Western Chapter. Chairman, K. P. Dexter [A].

South Australian Institute of Architects. Hon. Secretary, Stephen Hamilton Gilbert, B.E. Secretary, L. T. Ewens, Chamber of Manufacturers Building, 3rd Floor, 12 Pirie Street, Adelaide, S. Australia.

New Zealand Institute of Architects. President, Professor C. R. Knight, M.A., B.Arch. [F].

Nottingham, Derby and Lincoln Society of Architects: R.I.B.A. Architecture Bronze Medal. Nomination forms in respect of the above award for a building of exceptional merit built during the three-year period ending 31 December 1958 within the area of the Society are obtainable from the Secretary, W. L. Dunn, Messrs. Chamberlain and Merchant, Park House, Friar Lane, Nottingham. Nominations must be submitted by noon on 11 July 1959.

Royal Society of Ulster Architects: R.I.B.A. Architecture Bronze Medal. Nomination forms in respect of the above award for a building of exceptional merit built during the seven year period from 1 January 1952 to 31 December 1958 within the area of the Society are obtainable from the Hon. Secretary, Mr. Henry Lynn [L], 7 College Square North, Belfast. Nominations should be submitted not later than 20 May 1959.

Notes from the Minutes of the Council

MEETING HELD ON 7 APRIL 1959

Appointment of R.I.B.A. Representatives

(a) *First International Conference on Materials Handling: London 6-8 May 1959.* Eric Firmin [F].

(b) *Registered Plumbers Association: Annual Meeting of General Council: Liverpool 5 June 1959.* L. W. M. Alexander. [A]

(c) *British Standards Institution. Building Divisional Council.* R. T. Walters [A] in place of Thomas Mitchell [A].

(d) *Council for Codes of Practice.* H. H. Clark [F] and George Newell [A] in place of Thomas Mitchell [A] and Charles Woodward [A].

(e) *Codes of Practice Committee for Building.* R. T. Walters [A] in place of R. N. Wakelin [F].

Study Group on Materials Handling in Relation to Factory and Warehouse Construction. It was agreed that the Royal Institute should act as convener of a Study Group on Materials Handling dealing with the design and layout of factory buildings in which materials are handled largely by mechanical devices or automation.

British Architectural Students' Association: Conference at Cambridge 4-5 April 1959. The Council approved a grant of £100 towards the cost of the British Architectural Students' Association Conference at Cambridge.

Housing Centre Trust. Approval was given to a grant of 5 guineas for the year 1959 to the Housing Centre Trust.

Completion of Premises Fund. It was reported that a donation of 3 guineas to the Completion of Premises Fund had been received from Messrs. Lubynski, Leeb, Ritchie-Fallon and Noall (Cape Town).

GENERAL NOTES

Manufacturers' Trade and Technical Literature Competition 1959. The R.I.B.A. and the Building Centre are once again to act as joint sponsors of a competition for manufacturers' trade and technical literature. Previous competitions were held in 1957 and 1958. Conditions for the 1959 competition are available from The Building Centre, 26 Store Street, London, W.C.1.

University of London Lectures. Excellence in English Architecture. A course of two lectures entitled 'Excellence in English Architecture' by Professor Sir Albert Richardson, K.C.V.O., P.P.R.A., F.S.A. [F] will be given at the Senate House, W.C.1 (entrance from Russell Square or Malet Street) at 5.30 p.m. on Wednesday 20 and 27 May. At the first lecture the chair will be taken by the Reverend Canon C. B. Mortlock, M.A., F.S.A. [Hon. A]. Admission is free and without ticket.

The Architecture Club. A supper of the Architecture Club was held at Simpson's in the Strand on Tuesday 24 March under the chairmanship of the President, Lord Conesford, Q.C., and was followed by a discussion on the subject 'Motorways in Cities: a Threat or a Hope?'

Dr. Thomas Sharp, C.B.E., P.P.T.P.I. [L] and Mr. Arthur Ling, M.T.P.I. [F], opened the discussion, which was continued by Mr. John Brierley, Sir Allan Quartermaine, Mr. C. D. Buchanan, A.M.T.P.I. [A], Mr. Hubert Bennett [F], Mr. Maxwell Fry, C.B.E. [F], and Sir Hugh Casson, R.D.I. [F].

Membership. The following members were elected: as Associates 86.

Students. 42 Probationers were elected as Students.

Applications for Election. Applications for election were approved as follows: *Election 16 June 1959:* as Fellows 6; as Associates 21.

Applications for Reinstatement. The following applications were approved: as Fellow: Albert Edward Bullock; as Associate: Mrs. Catherine Elizabeth Scott.

Resignations. The following resignations were accepted with regret: Harry Tatham Sudbury [Retd. F], Ronald James William Gillings [A], Mrs. Margaret Johnston Aitchison [A], Lady Mary Bates [A], George Alexander Nuttall-Smith [A].

Applications for Transfer to Retired Members' Class Under Bye-Law 15. The following applications were approved: as Retired Fellow: William Bryce Binnie; Henry Augustus Ellis. As Retired Licentiate: Alexander Wilson.

Obituary. The Acting Secretary reported with regret the death of the following members: Robert Stanley Cobb [Retd. F], Arthur Henry Durand [Retd. F], William Vernon Coupland [A], Theodore Reginald Radford [A], Alec Donald Rix [Retd. A], Sydney Dalton [L], John Morgan Gordon Griffiths [L], Kenneth Francis Lewis [L], Percy Robinson Turner [L], John Raymond Christie [Student].

By resolution of the Council the sympathy and condolences of the Royal Institute have been conveyed to their relatives.

S.P.A.B. Annual Course on Repair of Ancient Buildings. The Society for the Protection of Ancient Buildings is again providing facilities for architects and surveyors interested in and responsible for old buildings to obtain knowledge of its principles and methods of repair, and is arranging its annual course, consisting of lectures, discussions and visits, to cover the many important aspects of repair work.

The Society is anxious to secure that those dealing with old buildings should understand not only traditional constructional methods, but also the principles underlying the sympathetic and conservative treatment of old buildings, whether ecclesiastical or secular. In view of the specialist nature of work of this character, the Society believes that the opportunity to study at first hand some of the problems which arise will be helpful to architects interested in this subject.

It is hoped that local authorities and others who have old buildings in their care or have dealings with them will be able to give facilities to the architect members of their staff to take advantage of this scheme.

The Society instituted this specialised course in 1951, and it has been held annually since then. Over the period, more than 200 architects have had the opportunity of seeing how the problems of repairs are met, and many hundreds of miles have been travelled to various parts of the country to see the particular jobs in progress. It is on the practical aspect of the course that the Society lays emphasis.

The course will be held from Monday 25 May to Saturday 30 May, and the Society invites those who are interested to apply for further details to:—The Secretary, S.P.A.B., 55 Great Ormond Street, London, W.C.1. (Holborn 2646).

Hammersmith College of Art and Building. Recognition of Full-time Architectural Course. The Hammersmith College of Art and Building, where together some students are taught to design buildings, some the professions and crafts with which to build them, and others a craft or art with which to enrich them, has had its full-time three-year course of architectural training recognised by the R.I.B.A. as exemption from the Intermediate Examination. The full-time five-year Diploma course in architecture has been recognised as exemption from the Final Examination—with the exception of Part III which concerns an examination of the student in his practical office experience and professional conduct and practice.

1959 CIB Congress, Rotterdam. His Excellency, the Minister of Housing and Building in The Netherlands has accepted the Honorary Presidency of the Congress of the International Council for Building Research, Studies and Documentation (CIB). The Congress will take place towards the end of September in Rotterdam and will be open to CIB members, their representatives, and also to other interested experts. Members of CIB are now to be found in nearly all European countries and also in a number of countries outside Europe.

The primary purpose of the CIB, which was constituted in 1953 under the aegis of the United Nations, is to encourage and facilitate international co-operation in building research, studies and documentation, covering not only the technical, but also the economic and social aspects of building.

Exchanges of views and meetings between experts from various countries certainly contribute towards achieving the purpose of the International Council.

In this way the September Congress is a means of disseminating the results already obtained and of giving a sound basis to further plans for practical international co-operation.

During the Congress the following subjects will be introduced in plenary sessions: (1) Design and calculation of constructions; safety factors; (2) Sociological and functional aspects of housing design; (3) Introduction to the normalisation of dimensioning on the building site, tolerances and dimension control; (4) Research problems concerning heavy concrete elements; (5) Mass housing in rapidly developing tropical areas; (6) Flat roofs; (7) Fundamental aspects of transmission of knowledge; (8) Heat insulation and other means of saving fuel for heating dwellings. Each subject will be introduced by various experts and will be subsequently put up for discussion.

Further particulars can be obtained from Dr. F. M. Lea, Building Research Station, Garston, Nr. Watford, Herts.

The Central Land Board. The Minister of Housing and Local Government and Minister for Welsh Affairs, Mr. Henry Brooke, and the Secretary of State for Scotland, Mr. John MacLay, have reviewed the responsibilities of the Central Land Board and have decided it would now be appropriate to wind up the Board and transfer its remaining functions in England and Wales to the Minister and those in Scotland to the Secretary of State.

The change was effected by an Order in Council which came into operation on 1 April 1959. As from that date correspondence for the Board should be addressed to the Secretary, Ministry of Housing and Local Government, 6 Carlton House Terrace, S.W.1, or the Secretary, Department of Health for Scotland, York Buildings, Queen Street, Edinburgh 2, as appropriate.

Appointment of Central Electricity Generating Board Architect. Mr. M. H. Shephard [A], has been appointed Architect on the staff of the Central Electricity Generating Board in the Chief Design and Construction Engineer's Department at the Board's Headquarters.

His duties are to advise the Board on the architectural aspects of its activities which include the construction of new power stations, switching stations and transmission lines. He will also act as secretary to a panel of consulting architects under the chairmanship of Sir William Holford [F]. He will also be responsible for furnishing guidance to and maintaining liaison with the executive architects dealing with individual major projects.

Regional College of Art, Manchester. Combined Course in Architecture. The Regional College of Art, Manchester started an entirely new course of training in architecture in September last. Combining training in school and office, it is something more than a sandwich course, because it presumes that the education of the student is continuous, though it may be for some periods under the direction of the practising architect and for others under the direction of the college lecturers. The Council of the R.I.B.A. approved in principle the inauguration of the scheme, the Manchester Society of Architects is supporting the course and close collaboration is being achieved with the Department of Building at the College of Technology.

Some 30 students embarked on the course this Session and the aim of the first year of training, which is full-time in the college, is to equip them for experience in an office and at the same time to test their capabilities and aptitude for architecture as a career. The students will be examined by a panel of architects after Whitsun and those who are successful will then be placed in suitable offices for the following three years. During these years the training will include one day a week at the college. The fifth year is a full-time one at the college and the course is concluded after two more years in an office. One advantage of the course is that each student will be able to earn an income during training and the office will be able to take an active part in his development.

It is believed that this course will produce a more complete training in the art and practice of architecture than any other. Its success will, of course, depend upon greater co-operation between school and office than has ever been achieved in the past and there is every indication that many of the architects of the Manchester region are eager to play their part.

Obituaries

William Henry Ansell, C.B.E., M.C., F.S.A., Past President, died on 11 February 1959, aged 86.

Mr. Ansell was born in Nottingham and articulated to Messrs. Naylor and Sale [F] in Irongate, Derby. He moved to London in 1897 to set up in private practice. During the First World War he served as a captain in the Royal Engineers and was awarded the Military Cross and twice mentioned in dispatches. From 1934 to 1949 he was in partnership with Mr. Arthur Bailey [F] and since then he had acted in a consultative capacity.

His practice included hospitals, country houses and churches; and more specifically, Westbury General Hospital, Wilts, Sevenoaks and Holmesdale Hospital, Kent and the Sanatorium for Greshams School, Holt, Norfolk; the Wesleyan Church at Westbury, Chidding-

stone Church, Riddels, and the Church of Humanity, Liverpool; the head offices of the National Deposit Friendly Society at 37 Queen Square, W.C.1., and the Society's Memorial Home at Skegness; the Butchers' Charitable Institution, Hounslow; as consultant architect for the Zachary Merton Trust, thirteen convalescent homes for the Trust, and the Zachary Merton Home, Banstead, for the London Hospital; and the West Ham Almshouses for the West Ham United Non-Ecclesiastical Charities.

Mr. Ansell was Chairman of the Board of Architectural Education from 1931 to 1933, Vice-President R.I.B.A. from 1933 to 1935, Hon. Secretary from 1938 to 1940, and President from 1940 to 1943. He had served for many years on the R.I.B.A. Council, on various committees including the Executive, Finance and House, Sessional Papers, Royal Gold Medal, Constitutional, Professional Conduct, Competitions, Registration, Architectural Education, Joint Consultative Committee of Architects and Builders, and Joint Committee of London Architects and Builders, and as an Examiner. He was Chairman of the A.R.C.U.K. Board of Architectural Education from 1931 to 1934 and Vice-Chairman of A.R.C.U.K. from 1936 to 1937; and an Hon. Fellow of the A.I.A.

He was President of the Architectural Association in 1928, Master of the Art Workers' Guild in 1944 and had been Vice-Chairman of the National Buildings Record and Deputy Commissioner of the War Damage Commission.

He had been a member of Lord Merriman's Commission on the City Churches and on the Gowers Committee on Houses of National Importance; consulting architect to the King George's Fields Foundation, the National Playing Fields Association and the National Council of Social Service; a member of the Cathedrals Committee of the Central Council for the Care of Churches; and an examiner to the Worshipful Company of Carpenters.

Mr. John L. Hope [F], Chief Architect, New Mulago Hospital, Kampala, Uganda, writes:

'I entered the office of W. H. A. on leaving school in 1924, and was with him for some ten years, first as a pupil and later as an assistant. In a one-man practice such as his was in those days one did something of everything, often, in my opinion, to the great advantage of the pupil and assistant.'

'W. H. A.'s architecture was scholarly and his detailing meticulous. Working drawings had to work, and he would not tolerate slipshod draughtsmanship. Woe betide the luckless wight who drew a centre line that was only a hair's breadth off centre.'

'This attitude persisted in building supervision, and the type of contractor he preferred was the now rarely encountered country builder with a devotion to and knowledge of his craft that equalled W. H. A.'s own.'

'Every job, large or small, received his conscientious personal consideration.'

'The staff varied in size according to the work on hand, but, in those days at least, was never large and by no means pampered, but younger members who showed keenness were always encouraged.'

'His knowledge of medieval architecture was prodigious, and besides giving many lectures for various organisations he was R.I.B.A. Intermediate Examiner in Byzantine and Romanesque, and French and English Gothic. It was probably knowledge of this fact that prompted me to choose Greek and Roman as my special history subjects.'

'Much of his time and energy was devoted to the R.I.B.A., where he sat on a number of Committees and its Council; he was Chairman of the Board of Architectural Education during

the critical years of the beginning of Registration, and became President during the war. He was also keenly interested in the Architectural Association, his memories of which went back to Tufon Street days.

'Etching, water colours and golf were his main recreations but his interests were scholarly and of wide range.

'I last met him in 1954, in his eighty-second year. He had retired from practice (his name being retained by the firm of Ansell and Bailey) shortly after the war because, in his own words "It is more red tape than architecture these days".

'By his death we lose a man who was the soul of integrity, with an attitude towards architecture that went far beyond that of the mere earning of a living.

'The knowledge and experience gained under his tutelage have proved invaluable to me and I feel I cannot allow his death to pass without paying him this tribute.'

Mr. Hubert Lidbetter [F] writes:

'Those who had the privilege of Ansell's friendship knew what a well stored mind was his, and further that he knew, in a manner not given to all, how to make use of his gifts and knowledge. Few had a happier knack of saying the right thing at the right time and, when necessary, an unpleasant truth pleasantly—a rare accomplishment. He has left the impression of a great Christian gentleman with a kindly wit and well developed sense of humour—what more can one say? He is mourned by many friends whose minds and memories are the richer for his friendship.'

Mr. Arthur Bailey, O.B.E., Officer of the Order of Orange Nassau [F] writes:

'May I please add to your obituary notice of W. H. Ansell—"Selmo" or "Bones" to his intimate friends.

'I enjoyed over 20 happy years in partnership with him, and later as my consultant.

'The very large number of letters sent to me from architects, authors, etchers, painters and sculptors from his own and succeeding generations is a tribute to a lifetime of administrative work to further the interests of the arts.

'He was completely honest in everything he did, and had the facility for the happiest choice of words, both in public speaking and private conversation. These two qualities and a selfless interest were a great asset in the numerous important offices which he held, and they also helped him to give strength to his wife, Lucy, during her many years of ill-health.

'I shall always be grateful to Hubert Lidbetter for bringing us together.'

Aubrey Edward Prower [A] died on 7 September 1958, aged 50.

Mr. Paul Mauger [F] writes:

'Mr. Prower came from Germany in 1933 and quickly acquired a remarkably good English: he worked for some years as Gropius' personal assistant in the office of Gropius and Fry. In 1935 he and Bernard Le Mare won third Prize in Section I of the Timber Development Association's House Competition, and as an outcome of this a framed timber house was built on the estate of Sir Stuart Mallinson at Woodford Green, Essex.

'He later worked as senior assistant with Herbert Welch and Felix Lander, and finally built up his own practice from a London office and Welwyn Garden City. His family live at Welwyn Garden City in a house he designed and his friends will be reminded of his kindly personality by a number of his pleasant buildings in Welwyn Garden City and the Home Counties.

'During the last few years he gave devoted

service to the Hertfordshire Chapter of the Essex, Cambridge and Hertfordshire Society of Architects, among whose members he will be sadly missed.'

Frederick Sutcliffe [F] died on 22 September 1958, aged 67.

Mr. Sutcliffe served his articles with Mr. C. Ernest Elcock [F] and later worked as a senior assistant to Mr. R. M. Butler [F] in Dublin. In 1923 he went into partnership with Mr. Elcock in London under the style of Elcock and Sutcliffe. After Mr. Elcock's death in 1944 he had continued the practice on his own account.

With Mr. Elcock he had been responsible for a great deal of hospital work, including a hospital at Davyhulme, near Manchester, and at Harrogate, both won in competition; the out-patients, casualty, X-ray, operating and orthopaedic units at the Royal Wolverhampton Hospital, Staffs., also won in competition; extensions to Hertford County Hospital; Oldham Maternity Hospital; Runwell Mental Hospital; and Driffild Cottage Hospital. From 1942 to 1944 he was responsible to the 'Ministry of Works for 63 emergency hospitals for the U.S. Forces. Amongst later hospital work were the Nurses Home at the M.O.H. Hospital, Cosham, near Portsmouth, and post-war, the rehabilitation unit, nurses quarters, electrical and physiotherapy units and the modernisation of the Frascati Maternity unit at Bromley and District Hospital, and the new children's wards, operating, X-ray and plaster units at Luton Children's Hospital.

In addition Mr. Sutcliffe designed and supervised many banks all over England and Wales for the Midland Bank Ltd., for whom he had acted as one of their official architects since 1923, and also many branches for Martins Bank Ltd., in and around London, Kent, and Sussex.

Other work included the DAILY TELEGRAPH offices, Fleet Street (with Sir John Burnet and Partners [F]), extensions to Epsom Racecourse Grandstand, Waring and Gillow's Arcade, London, Princess House, Oxford Street, extensions to the Black Swan Hotel and the Saxone Arcade, York, churches at Rhos-on-Sea, North Wales, Old Colwyn, Crewe, and Hatfield, and houses in North Wales, Kent, Sussex, and Surrey.

Mr. Sutcliffe had been a member of Bromley Borough Council.

Membership Lists

ELECTION: 7 APRIL 1959

The following candidates for membership were elected on 7 April 1959.

AS ASSOCIATES (86)

Alexander: Robert Roger, D.A.(Edin.), Linlithgow.
Archer: Ivan Alfred, Dip.Arch.(Birm.), Burton-on-Trent.
Bacon: John William, Ferring.
Baker: Geoffrey Howard, Dip.Arch.(Manchester), Blackpool.
Becker: Ian Harold Scott, M.C.D., B.Arch.(L'pool.), A.M.T.P.I., Haddington.
Berrett: Brian, Dip.Arch.(Birm.), Coventry.
Bigg: Allan Charles, Dip.Arch.(The Polytechnic), West Wickham.
Birrer: William Anthony, B.Arch.(C.T.), Bulawayo, Southern Rhodesia.
Black: Robert Reid, D.A.(Dundee), Arbroath.
Bridger: Colin Gordon, Dip.Arch.(Manchester).
Bristow: John Alan, Dip.Arch.(Kingston), Reigate.
Brookes: Brian, Dip.Arch.(U.C.L.), Lancing.
Bruce: William, Kirriemuir.
Bunting: Brian, Dip.Arch.(The Polytechnic), Cambridge.

Burns: Ian Douglas, D.A.(Glas.), Stirling.
Burton: David Joseph, Dipl.Arch.(Oxford), Broadstone.
Carroll: Kenith John, Dipl.Arch.(Oxford), Cirencester.
Carter: Henry Keith, B.A.(Arch.)(Manchester), Rochdale.
Chadwick: James Harry, B.A.(Arch.)(Manchester), Manchester.
Chakrapani: Raghunathan, Madras, India.
Collis: Robert Harvey, A.A.Dipl., Epsom.
Cook: Harold Arthur, Welling.
Crawford: Ian William, Dip.Arch.(Birm.), Birmingham.
Crowe: Philip Norman, Dipl.Arch.(Leeds), Leeds.
Davies: Ceri, Dip.Arch.(Cardiff), Barry.
de Souza: Peter Marcel, B.A.(Cantab.), A.A. Dipl.
Dudhill: Peter, Dip.Arch.(Leics.), Leicester.
Fenton: Roy Malcolm, Dipl.Arch.(Hull), Hull.
Fielding: Derek Wainwright, M.C.D., B.Arch.(L'pool.), Oldham.
Fisher: William John, A.A.Dipl.
Frishman: Martin Julius, Dip.Arch.(The Polytechnic).
Grant: John Cameron, D.A.(Edin.), East Kilbride.
Gray: David Frederick, A.A.Dipl.
Griffiths: John Anthony, Dip.Arch.(The Polytechnic).
Griffiths: Stephen Randle, Dip.Arch.(Manchester), Kingston.
Haigh: Peter Robert, B.Arch.(Sydney).
Hanson: David William, B.Arch.(L'pool.), Walsley.
Hanson: John.
Hartley: James Peter, Dip.Arch.(Birm.), Burton-upon-Trent.
Heal: David Corseilis.
Hives: John Graham, Dipl.Arch.(Oxford), Reading.
Hoffe: Andre John, B.Arch.(Rand), Salisbury, Southern Rhodesia.
Holmes: John, Dipl.Arch.(Kingston), Guildford.
Johnson: Frederick Clive, B.Arch.(Wales), Cardiff.
Johnston: Adam, D.A.(Edin.), Port Seton.
Lane: John Armstrong, Dip.Arch.(Leics.), Leicester.
Lehey: Norman George, B.Arch.(Melbourne), Kuala Lumpur, Fedn. of Malaya.
Leslie: David James, D.A.(Glas.), Glasgow.
MacGregor: John Seyton Kofi, Kingston-upon-Thames.
McGregor Williams: Roger James, M.A.(Cantab.), Dip.Arch.(The Polytechnic), Chislehurst.
Mackay: David John, Barcelona, Spain.
Mananuthunga: Noel Sylvester Paul, Dip.Arch.(Melbourne), Melbourne, Victoria, Australia.
Manners: Keith Allen, Dip.Arch.(The Polytechnic).
Marsden, (Miss) Anne Monica, B.Arch.(Wales), Penarth.
Matthews: Vivian, Dip.Arch.(Cardiff), Aberdare.
Messling: Derek Ronald, Dipl.Arch.(Northern Polytechnic), Gwelo, Southern Rhodesia.
Middleton: Francis David, Newcastle upon Tyne.
Morgans: David Richard, B.Arch.(Wales), Swansea.
Pearce: Norman Glyn Avery, Dip.Arch.(Cardiff), Penarth.
Peck: Philip George Stephen, Lusaka, Northern Rhodesia.
Phillip: David, D.A.(Glas.), Wirksworth.
Phillips: John James, Dip.Arch.(Cardiff), Cardiff.
Powell: Thomas Kenneth, Dip.Arch.(Cardiff), Whitchurch, Glam.
Price: Cedric John, B.A.(Cantab.), A.A.Dipl. (Nottm.), Newark.
Russell: Trevor Claude Charles, Perth.
Salt: Norman Leslie, Dip.Arch.(Birm.), Bilston.
Sayer: Francis Brian, Dip.Arch.(Sheffield), Darlington.
Slater, (Miss) Ann, Dip.Arch.(Sheffield), Sheffield.
Smith: Kenneth Pickard, Warwick.
Southern: Thomas Gerald, B.Arch.(Dunelm), Newcastle upon Tyne.
Stedman: Geoffrey George, Dipl.Arch.(Kingston), Woking.
Stewart: James Henderson, B.Arch.(L'pool.), Birkenhead.
Tan: Soo Seng, B.A.(Arch.)(Sheffield).
Thompson: Alan Michael, Bristol.
Thompson: Derek Peter, Dipl.Arch.(Leeds), Buckhurst Hill.

Thorne: John Bryan, Dip.Arch.(Birm.), Birmingham.
Trevor: Stanley, B.Arch.(Rand).
Trower: Roger John, Dip.Arch.(Nottm.), Norwich.
Turtle: (Miss) Sylvia Maude, Dip.Arch.(The Polytechnic).
Vis: Cornelis Matheus, Dipl.Arch.(Hull), Cottingham.
Walker: Christopher John, Dip.Arch.(The Polytechnic).
Wallace: Lancelot Ferguson, Dip.Arch.(Sheffield), Workington.
Walsh: Kevin Robert, Dar es Salaam, Tanganyika, East Africa.
Whitton: John Irwin, Dipl.Arch.(Hull), Hull.
Wilson (Miss) Corinne Gillian, B.A.(Arch.), (London).

ELECTION: 16 JUNE 1959

An election of candidates for membership will take place on 16 June 1959. The names and addresses of the candidates, with the names of their proposers, are herewith published for the information of members. Notice of any objection or any other communication respecting them must be sent to the Secretary, R.I.B.A., not later than Saturday 16 May 1959.

The names following the applicant's address are those of his proposers.

AS FELLOWS (6)

Hill: Richard Towing, A.A.Dipl. [A 1948], 18 Orchard Street, Bristol 1; 27A Great George Street, Bristol 1. Eric Lyons, F. L. Hannam, Miss G. M. J. Taylor (Mrs. R. A. Gerrard).

Jobson: William John, E.R.D. [A 1935], Oxford Regional Hospital Board, 43 Banbury Road, Oxford; Taylors Cottage, Little Wittenham, Abingdon, Berks. K. A. Stevens, Philip Powell, Hidalgo Moya.

Lewis: Herbert John Whitfield, Dip.Arch.(Cardiff), R.I.B.A. Distinction in Town Planning [A 1934], Principal Housing Architect, L.C.C. Architect's Department, County Hall, S.E.1; 8 St. Johns Wood Road, N.W.8. Hubert Bennett, Graham Dawbarn, F. R. S. Yorke.

Shepherd: Peter Faulkner, B.Arch.(L'pool), R.I.B.A. Distinction in Town Planning, A.M.T.P.I., F.I.L.A. [A 1938], 42 Bruton Place, Berkeley Square, W.1; 22 Blomfield Road, W.9. Prof. Sir William Holford, D. L. Bridgewater, Arthur Ling.

Stower: Frank, A.M.T.P.I. [A 1936], 2 Angel Court, Throgmorton Street, E.C.2; 1 Archer Road, St. Mary Cray, Orpington, Kent. Prof. Sir William Holford, Sir Thomas Bennett, Prof. H. M. Wright.

West: Frank George [A 1936], Deputy Chief Architect, London County Council, County Hall, S.E.1; 77 Kingsmead Road, Tulse Hill, S.W.2. Hubert Bennett, Prof. R. H. Matthew, Prof. Sir Leslie Martin.

AS ASSOCIATES (21)

The name of a school, or schools, after a candidate's name indicates the passing of a recognised course.

Britch: Arthur Lancaster, B.A.(Arch.), B.Sc.(Tech.)(Manchester) (Victoria Univ., Manchester: Sch. of Arch.), No. 2 Hilton Square, Pendlebury, Manchester. Prof. R. A. Cordingley, Dr. W. A. Singleton, E. S. Benson.

Carrier: Michael John, B.A.(Arch.)(London), (Bartlett Sch. of Arch.: Univ. of London), 33a Popesgrove Mansions, Twickenham, Middlesex. Prof. H. O. Corfiato, Frederick Gibberd, C. S. Maddall.

Carter: Campbell Charles, Dip.Arch.(Cardiff), (Welsh Sch. of Arch.: The Tech. Coll., Cardiff), George Hotel, Maindee, Newport, Mon. Lewis John, C. F. Bates, Johnson Blackett.

Cooper: Ivie Richard, D.A.Dip.T.P.(Glas.), (Glasgow Sch. of Arch.), 'Allandale', 2 Old Inverkip Road, Greenock, Renfrewshire. Prof. W. J. Smith, A. D. Cordiner, A. G. Jury.

Devonald: Anthony David Graham, B.Arch.(L'pool.), (Liverpool Sch. of Arch.: Univ. of Liverpool), Hillrise, East Hill Road, Oxted, Surrey. Prof. R. Gardner-Medwin, R. R. Young, M. G. Gilling.

Edwards: Maurice, Dip.Arch.(Manchester), (Victoria Univ., Manchester: Sch. of Arch.),

4 Wesley Place, Newcastle, Staffs. Prof. R. A. Cordingley, E. S. Benson, H. T. Seward.

Evans: David Thomas Siarlys, Dip.Arch.(Cardiff), (Welsh Sch. of Arch.: The Tech. Coll., Cardiff), 38 Regents Park Road, N.W.1. Lewis John, Richard Sheppard, Geoffrey Robson.

Evans: Gareth Heddwyn, Dip.Arch.(Cardiff), (Welsh Sch. of Arch.: The Tech. Coll., Cardiff), Flat No. 4 (Rear), 199 Cathedral Road, Cardiff. Applying for nomination by the Council under Bye-law 3(d).

Fallon: John Padraic, Dipl.Arch.(Kingston), (Sch. of Art, Kingston-upon-Thames, Dept. of Arch.), 'Cherry Lea', London Road North, Merstham, nr. Redhill, Surrey. L. C. Holbrook, Graham Crump, J. K. Hicks.

Gentle: Desmond John Stonebridge, A.A.Dipl.(Arch.Assoc.)(London): Sch. of Arch.), T/B 'Elton', Toll Office, Delamere Terrace, W.2. E. E. Rosenberg, Arthur Korn, John Billam.

Haskoll: Michael, Dip.Arch.(The Polytechnic), (The Poly., Regent Street, London: Sch. of Arch.), 1 Champion Road, S.E.26. J. S. Walkden, Peter Goodridge, J. S. Foster.

Higton: Ian Watson, Dip.Arch.(Manchester), (Victoria Univ., Manchester: Sch. of Arch.), The Manse, Gladstone Street, Glossop, Derbyshire. Prof. R. A. Cordingley, E. S. Benson, W. C. Young.

Holland: James Michael, Dip.Arch.(Manchester), (Victoria Univ., Manchester: Sch. of Arch.), 'Verena', 88 Bishops Road, Great Lever, Bolton, Lancs. Prof. R. A. Cordingley, E. S. Benson, Dr. W. A. Singleton.

Jamieson: William Millar, D.A.(Glas.), (Glasgow Sch. of Arch.), 17 Benview Street, Glasgow, N.W. C. J. Crowe, G. B. E. Norburn, E. D. Hill.

Jones: Dennis Hankey, Dip.Arch.(Dunelm), (King's Coll.(Univ. of Durham), Newcastle upon Tyne, Sch. of Arch.), Essch, Springwell, Gateshead, 9. Prof. W. B. Edwards, Bruce Allsopp, J. H. Napper.

Lloyd: Clifford Edward Abbott, B.Arch.(L'pool.), (Liverpool Sch. of Arch.: Univ. of Liverpool), 203 Allerton Road, Calderstones, Liverpool, 18. Prof. R. Gardner-Medwin, R. R. Young, Lieut.-Colonel Ernest Gee.

McCormack: Jeffrey Andrew, Dipl.Arch.(Kingston), (Sch. of Art, Kingston-upon-Thames: Dept. of Arch.), 30 Westville Road, Thames Ditton, Surrey. Eric Lyons, Richard Nickson, and applying for nomination by the Council under Bye-law 3(d).

Murison: Hamish Stewart, Dip.Arch.(Abdn.), (Aberdeen Sch. of Arch.: Robert Gordon's Tech. Coll.), 44 Maisondieu Road, Elgin, Moray. E. F. Davies, John MacLennan, D. W. Innes.

Smith: Michael Slade, Dip.Arch.(Birm.), (Birmingham Sch. of Arch.), 'Brook House', Frampton-on-Severn, Gloucestershire. A. Douglas Jones, Herbert Jackson, J. F. R. Gooding.

Stokes: Robert Morley, Dip.Arch.(Birm.), (Birmingham Sch. of Arch.), 32 Bath Road, Keynesham, nr. Bristol. A. Douglas Jones, Reginald Edmonds, K. A. Lloyd.

Yang: Tai Tye, Dip.Arch.(Birm.), (Birmingham Sch. of Arch.), 16 Drayton Gardens, S.W.10. A. Douglas Jones, Herbert Jackson, J. F. R. Gooding.

Members' Column

This column is reserved for notices of changes of address, partnerships vacant or wanted, practices for sale or wanted, office accommodation, and personal notices other than of posts wanted as salaried assistants for which the Institute's Employment Register is maintained.

APPOINTMENTS

Mr. A. G. Beckett, A.M.P.T.I. [A], has been appointed Chief Assistant (Architectural Services), Borough Surveyor's Department, Blackpool, and his address is now 161 Cornwall Avenue, Blackpool, N.S.

Mr. Frank Fielden, M.A. [F], Senior Lecturer in Architecture in Durham University, has been appointed to the Chair of Architecture in the Royal College of Science and Technology, Glasgow, in succession to Professor William J. Smith, M.C., F.S.A. [F], who is retiring.

Mr. F. A. C. Maunder, M.T.P.I. [F], has been appointed Regional Architect to the North West Metropolitan Regional Hospital Board in succession to Mr. C. D. Andrews [F], who has retired.

Mr. K. M. Munnich [A] has resigned from the post of Senior Planner with the Basildon Development Corporation to take up the appointment of City Planning Officer, Halifax, N.S., Canada. He will be pleased to receive trade literature, etc., addressed to the City Hall, Halifax, N.S., Canada.

Mr. J. H. Napper, A.M.T.P.I. [F], has been appointed by the University of Durham to a Professorship of Architecture, personal to himself, and tenable in the Newcastle Division from 1 April 1959. In addition to his normal duties he will direct the post-graduate research at the Newcastle School.

Mr. Rupert Purkis [A] has been appointed Lecturer in the School of Architecture, University of New South Wales, Sydney, Australia.

Mr. B. H. Rossiter [A] has been appointed Senior Group Planning Officer (Development Control) to the City Architectural and Planning Department, Coventry, and his address is now c/o City Architectural and Planning Dept., Bull Yard, Off Warwick Row, Coventry.

Mr. W. E. Tatton Brown, A.M.T.P.I. [A], Deputy County Architect of Hertfordshire, has been appointed Chief Architect in the Ministry of Health.

Mr. G. A. Weinmann [A] has been appointed Senior Architect in the newly established Architects' Section of the Civil Engineer-in-Chief's Department, Admiralty, Pinner, Middlesex.

PRACTICES AND PARTNERSHIPS

Mr. C. Gustave Agate [F] of the firm of Halliday and Agate has retired from partnership and become consultant to the firm. Mr. F. Leslie Halliday [F] has taken Mr. P. H. Meecham [A] into partnership, and Mr. G. V. Jones [L] and Mr. J. P. Whittle [A] are associates. The practice will continue under the same style at 4 Fountain Street, Manchester, 2.

Mr. Charles Blake [A] has commenced private practice in association with Mr. J. E. Knapman and Mr. S. Jampel at Phoenix Chambers, 553 Babbacombe Road, Torquay, Devon (Torquay 25666-7).

Mrs. Beryl L. Bowker (née Filmer) [A] has started private practice at Burndale, New Brighton Road, Emsworth, Hants., where she will be pleased to receive trade catalogues.

Messrs. Brett, Boyd and Bosanquet are now practising in association instead of in partnership. The Hon. Lionel Brett [F] will remain at the office at Watlington Park, Oxford (Watlington 140). Mr. Kenneth Boyd [A] at 189 Regent Street, London, W.1. (Regent 5489) and Mr. Peter Bosanquet [A] at 60 St. John Street, Oxford (Oxford 59666).

Mr. Montague E. Crocker [F], formerly Deputy City Architect and Building Surveyor, Singapore, has commenced private practice at 'Denestead House', Station Road, New Milton, Hants., where he will be pleased to receive trade catalogues, etc.

Mr. B. W. Drury [A] has terminated his partnership in the firm of S. P. Jordan and Partners [A] and is now in practice under his own name at 35 Woodside Road, Purley, Surrey, where he will be pleased to receive trade catalogues.

Mr. A. J. Elder [A] has taken Mr. T. A. Lester [A] into partnership under the style of Elder and Lester at Grosvenor Buildings, 65 Albert Road, Middlesbrough, Yorkshire (Middlesbrough 3141).

The partnership between Mr. Michael Farey [A] and Mr. John J. Adams [A] has been dissolved by mutual consent. Mr. Farey will continue his architectural practice and as a Diocesan Architect to the London Diocese under his own name at 83 Prince Albert Road, Regent's Park, London, N.W.8 (Primrose 3071). Mr. Adams will carry on his architectural and perspective practice under his own name at 76 Torrington Park, Friern Barnet, London, N.12 (Hillside 1898).

Messrs. Oscar Garry and Partners (Oscar Garry [A] and S. F. Dennis [A]) have taken Mr. H. John Wroughton [A] into partnership.

Mr. M. E. Gooch [A] has joined Mrs. S. M. Gooch [A] in practice under the style of Michael and Shelia Gooch at Gurney Court, Magdalen Street, Norwich (Norwich 27506).

As from 1 January 1959 Mr. S. Grabowski [A] of 50a West Kensington Mansions, London, W.14, and Mr. D. J. Lock [A] of 39 Sittingbourne Avenue, Bush Hill Park, Enfield, have been made principal architects in the office of Mr. P. R. Diplock, A.M.T.P.I. [A], practising as Russell Diplock Associates at 235 Vauxhall Bridge Road, Westminster, London, S.W.1.

Messrs. Graham and Roy [L/A] of 6 Paternoster Row, Carlisle, and 52 Main Street, Cockermouth, have taken Mr. R. N. Nicholson, A.M.I.C.E. [A], into partnership under the style of Graham, Roy and Nicholson.

Mr. R. J. Digges La Touche [A] has taken over the practice of Mr. J. A. Matthews [A] and will continue the practice under the style of Matthews and La Touche at the same address—Chesterfield House, Chipping Sodbury, Glos. (Chipping Sodbury 3279). Mr. Matthews' address is now c/o Barclays Bank (Canada), Ltd., 304 Bay Street, Toronto, Ontario, Canada.

Mr. W. H. McAlister [A], practising on his own account at 6 Donegall Road, Shaftesbury Square, Belfast, N. Ireland, has taken Mr. John Mather [A] 15660, Mr. John Armstrong [A] and Mr. D. H. MacRae into partnership under the style of W. H. McAlister, John Mather and Partners. The firm's offices will be at the Belfast address, 6 Shipquay Street, Londonderry, and 84 Bridge Street, Warrington, Lancs. Mr. Mather will be at the Warrington office.

The association between Mr. Kenneth B. Mackenzie [F] and Mr. Peter B. Davenport [A] has been terminated by mutual consent. Mr. Mackenzie will continue to practise at Bibury, Cirencester, Gloucestershire. Mr. Davenport has commenced practice on his own account at Mount Pleasant, Mottram Old Road, Hyde, Cheshire—this address will be temporary.

Mr. Jack R. Oke [A] is now in private practice at 44 Bedford Street, Exeter, Devon (Exeter 71704), where he will be pleased to receive trade literature.

Mr. Rolf Rosner, A.M.T.P.I. [A], has started private practice at Hamburg-Bramfield, Hohenkamp 89, West Germany (Telephone 63 61 68).

Mr. Stanley H. J. Roth [F], Mr. Patrick I. D. Tetley [A] and Mr. David G. Felce [A] of Messrs. Stanley Roth, Tetley and Felce, 32 Little London, Chichester, Sussex, and 60 West Street, Brighton, have dissolved partnership and formed three separate practices at Chichester and Brighton. Each practice will have the other two as consulting architects.

Mr. P. Dennis Tugwell [A] has retired from partnership in the firm of Ronald Phillips, Milnes and Tugwell to settle in Australia. Mr. Ronald Phillips [F] and Mr. Brian Milnes [A] will continue the practice under the same style at Beacon House, 15a Christchurch Road, Bournemouth.

The partnership of Bernard Wilson and Owen has been dissolved by mutual consent. Mr. Bernard Wilson [A] will continue to practise under the style of Bernard Wilson at 67 Lord Street, Liverpool 2 (Central 5599), and Mr. D. R. Owen [A] will practise at 44 Pilgrim Street, Liverpool (Central 2082).

CHANGES OF ADDRESS

Mr. C. B. Bandekar [A], of Messrs. B. G. Bandekar & Co., is now practising from Hashim Building, 40 Veer Nariman Road, Fort, Bombay, India, where he will be pleased to receive trade literature, etc.

Mr. Charles Blake [A] has changed his address to Phoenix Chambers, 553 Babbacombe Road, Torquay, Devon (Torquay 25666-7).

Mr. Dennis J. T. Brown [A], who is now Assistant Architect to the Borough and County of Poole, Dorset, has changed his home address to 15 Methuen Road, Waterloo, Poole, Dorset.

Mr. Ian D. W. Campbell [A] has changed his office address to 4 Malone Road, Belfast, N. Ireland. The telephone number remains Belfast 669763.

Messrs. J. A. Chatwin and Son (P. B. Chatwin, O.B.E. [F], and A. B. Chatwin [F]) have changed their address to 6 George Road, Edgbaston, Birmingham, 15 (Edgbaston 0215), where they will be pleased to receive trade literature.

Mr. Kenneth W. Favell [A] has opened a new office at 27 Chester Street, Wrexham, Denbighshire (Wrexham 2931), and the assistant in charge will be Mr. John Keith Bellis. Trade literature and samples will be welcome.

Mr. D. Greenwood [A] has changed his address to 'Whiteways', 15 The Avenue, Hipperholme, Nr. Halifax (Halifax 69225).

Mr. Paul A. Hamilton [A] has changed his address to 16 Lansdowne Crescent, London, W.11.

Mr. F. W. Hammond [A] has changed his address to 'Carramore', Portsmouth Road, St. Catherine's, Guildford, Surrey.

Mr. Dennis R. Hance [A] has changed his address to 384 Baddow Road, Chelmsford, Essex, where he will be pleased to receive trade catalogues.

Mr. David A. Hatcher [A] is now practising from The Clays, Chattisham, Nr. Ipswich, Suffolk.

Mr. Kenneth F. Haynes [A] has changed his address to Flat 23, 'Fintra Court', 50 Central Avenue, Salisbury, Southern Rhodesia.

Messrs. Hodgson, Lunn and Co. (F. J. Hodgson [L] and J. W. Hodgson [A]) have changed their address to 170 High Street, Guildford.

Mr. Michael E. Holt [A] has changed his private address to 6 Coflton Lake Road, Rednal, Nr. Birmingham (Hillside 2109).

Mr. Gerald O. Hunter [A] has changed his address to 'Greenbanks', Old Bath Road, Sonning, Berks. (Sonning 2187).

Mr. Philip Langley [A] has commenced work for a two-year period for Lawrence Halprin, landscape architect, and his address is now, c/o Halprin, 737 Beach Street, San Francisco, California, U.S.A.

Mr. J. Kerr Large [A] has changed his address to c/o Midland Bank Ltd., 1 Woburn Place, London, W.C.1.

The address of Messrs. Manning and Clamp's [A/A] Richmond office is now 19 The Green, Richmond, Surrey (Richmond 2341-2), where they will be pleased to receive future correspondence.

Messrs. Michell and Adams (Gordon and Eleanor Michell [A/A] and B. L. Adams [A]) have moved their offices to 20 Kensington Church Street, London, W.8 (Western 4118).

Mr. Trevor J. Mowbray [A] has changed his address to 13 Murray Street, Lane Cove, Sydney, New South Wales, Australia.

Messrs. Natusch and Manning [A] have moved their office to 24 West Street, Bridport. The telephone number remains Bridport 2804.

Mr. A. A. Philpot [A] has now returned to 37 Northumberland Street, Tusmore, South Australia.

Mr. Kimball Pollitt [A] has changed his address to 47 Wingfield Road, Whitchurch, Cardiff (Whitchurch 1579).

Mr. Richard Joseph Potter [A] and Mrs. Kathleen Muriel Potter [A] have changed their address to 'Wedgeways', Waterloo Road, Wokingham, Berks.

Mr. Walter F. Price [A] has opened an office at 23 Beaumont Street, Oxford, where he will be pleased to receive trade catalogues, etc.

Mr. R. B. Prisgrove [A] has changed his address to 30 The Uplands, Ruislip, Middlesex (Ruislip 2751).

After two years' interruption of his activities, Mr. Marcel Sammut [A] has reopened his office at 7 Chafik Mansour, Gezira-Zamalek, Cairo, Egypt.

Mr. Ronald S. Sutherland [A] has changed his address to 1A Findlay Avenue, Roseville, N.S.W., Australia.

Messrs. Tooley and Foster [FF] have opened an office at 38 Great Portland Street, London, W.1 (Museum 3414). Representatives will be seen only at their main office at Midland Bank Chambers, Buckhurst Hill, Essex.

Mr. John B. Tunstall [A] has changed his address to Quoin Cottage, 17 Home Close, Histon, Cambridgeshire.

Mr. R. W. Winter [A] has changed his private address to 401 Gillott Road, Edgbaston, Birmingham 16.

MISCELLANEOUS

Kenya Building Centre. The Ministry of Works, Kenya, are in the process of creating a Building Centre to serve the Colony. Manufacturers and agents of all forms of building materials are invited to forward trade catalogues, literature and prices, together with samples of their products for display purposes, to the Secretary for

Works, Technical Library (Buildings), Ministry of Works, Private Bag, Nairobi, Kenya Colony.

PRACTICES AND PARTNERSHIPS WANTED AND AVAILABLE

Associate, school trained and with 18 years' all-round experience, seeks senior position leading to partnership in London or south-west Surrey. Some capital available. Box 39, c/o Secretary, R.I.B.A.

Associate with considerable and varied experience seeks responsible position in London or the Home Counties with a view to partnership. Some capital available. Box 40, c/o Secretary, R.I.B.A.

Associate (39) with considerable experience seeks partnership or responsible position leading thereto in London office. Some capital available. Box 43, c/o Secretary, R.I.B.A.

Fellow, with busy established practice in Croydon, offers a responsible position with a view to ultimate partnership to a member who has experience and ability to manage an office. Box 44, c/o Secretary, R.I.B.A.

Partnership wanted in established London practice by Associate with 20 years' experience in London. Good references. Capital available. Box 45, c/o Secretary, R.I.B.A.

Senior member with old established small practice in Leicester would like to meet energetic young and experienced architect with suitable training with a view to association and ultimate acquisition of practice. Box 47, c/o Secretary, R.I.B.A.

Fellow, A.A.Dipl., with small seaside practice but some recent London experience, would like to discuss prospect of amalgamation with, or assistance with a view to ultimate partnership in, a larger practice in London or S.E. England. Member is energetic and anxious for opportunity to increase scope of work whilst retaining some part of existing connection. Box 48, c/o Secretary, R.I.B.A.

Fellow, with considerable experience in hospital design and construction at home and abroad, would consider partnership or co-operation with firm of architects on hospital work in London or overseas. Some capital available. Box 49, c/o Secretary, R.I.B.A.

Associate (48), with varied experience in this country and considerable experience in tropical architecture, recently returned from abroad, desires appointment with a view to partnership. Capital available. Box 50, c/o Secretary, R.I.B.A.

Associate (44) requires partnership with busy London or Home Counties firm. Ten years' general practice on own account in London. Available immediately. Some capital available. Box 51, c/o Secretary, R.I.B.A.

Associate (38), with ten years' varied post-graduate experience, seeks partnership or position leading thereto after a six to twelve months' period, in southern England. Some capital available. Box 52, c/o Secretary, R.I.B.A.

Associate wishes to purchase provincial practice in the north of England, or form an association with retiring member, incorporating expanding personal practice. Capital available. Box 54, c/o Secretary, R.I.B.A.

Fellow (49), practising in London and overseas, wishes to contact established London firm interested in amalgamation. Box 55, c/o Secretary, R.I.B.A.

WANTED

Wanted. Ivory 2 ft. four-fold architect's rule. Box 53, c/o Secretary, R.I.B.A.

ACCOMMODATION

Member with surplus office space would be willing to share with firm of architects or surveyors requiring small branch or accommodation address in south Hampshire. Full office facilities available. Box 41, c/o Secretary, R.I.B.A.

Drawing office to let close to Marble Arch. Rent £220 per annum, inclusive. Box 46, c/o Secretary, R.I.B.A.

The Royal Institute of British Architects, as a body, is not responsible for statements made or opinions expressed in the JOURNAL.



Architects: Harrison & Cox, F./A.R.I.B.A.

Contractors: Hinkins & Frewin, Oxford

Over 1,330 sq. yds. of Marley floor tiles

were used throughout the new

Blessed Edmund Campion School at Iffley, Oxford

MARLEY

SEVENOAKS • KENT • SEVENOAKS 55255 • LONDON SHOWROOMS: 251 TOTTENHAM COURT ROAD • W.1



For private sanctums



*"ARMOURPLATE" and "ARMOURCAST" Glass
Doors are guaranteed for five years*

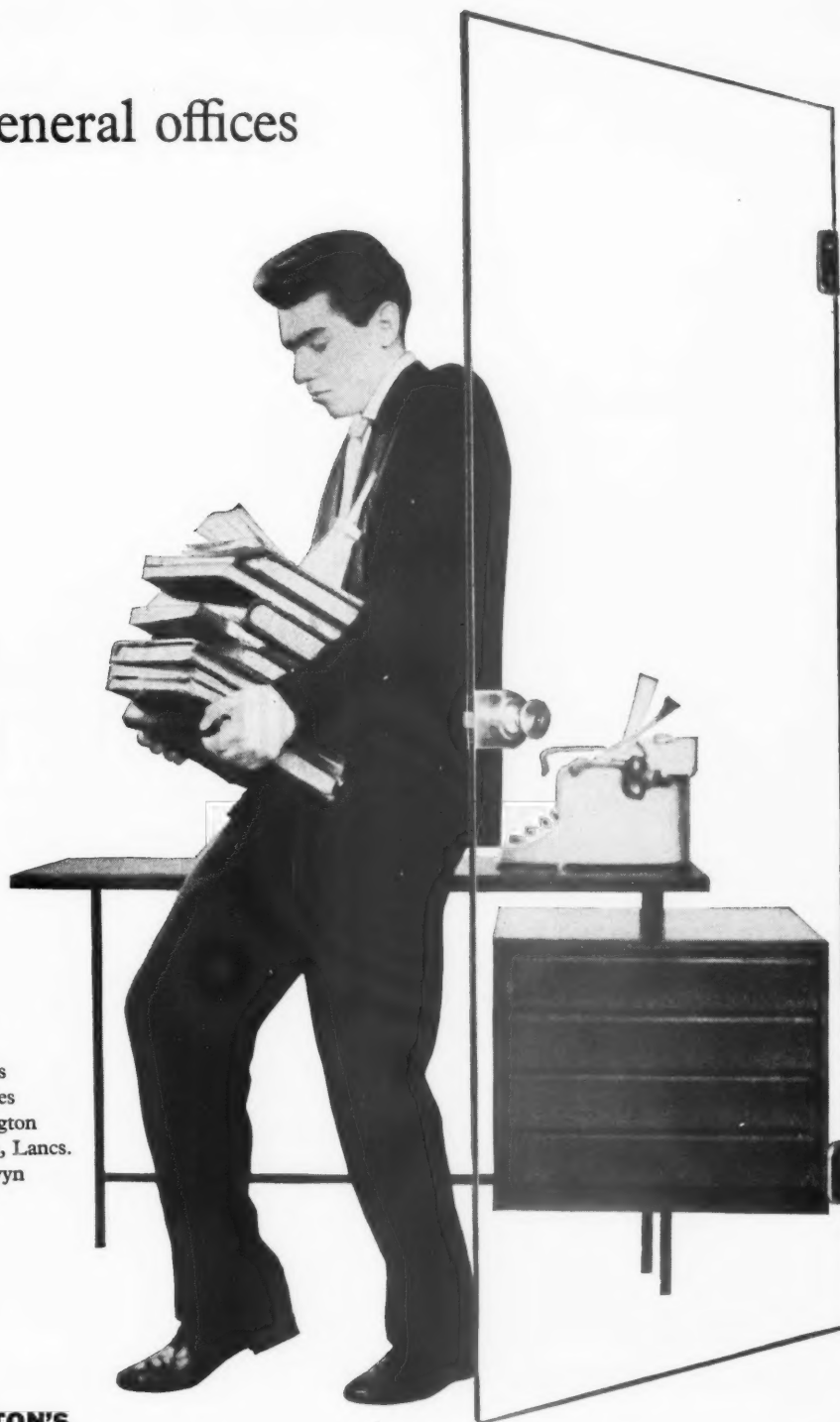
Door check and closer available
for both doors. 'ARMOURPLATE'
and 'ARMOURCAST' are registered
trade marks of Pilkington
Brothers Limited. Supplies
are available through the usual
trade channels.

PILKINGTON'S

"ARMOURCAST" Glass Doors



For general offices



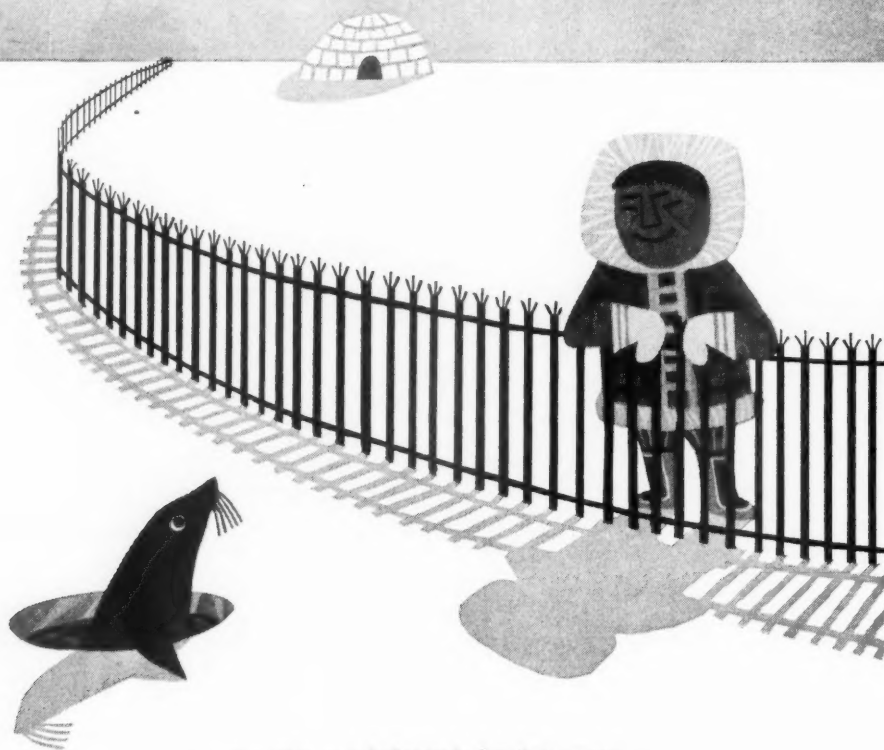
For further information
on 'ARMOURPLATE' and
'ARMOURCAST' Glass Doors
consult the Technical Sales
and Service Dept., Pilkington
Brothers Ltd., St. Helens, Lancs.
(St. Helens 4001) or Selwyn
House, Cleveland Row,
St. James's, S.W.1.
(WHItchall 5672-6.)



PILKINGTON'S

"ARMOURPLATE" Glass Doors

You can't go anywhere
without coming across a fence by **BJB**



... or a gate or a balustrade for that matter —
because BJB make anything in wrought
ironwork. And they make friends, too.

Ask them to help you with any problem
of gates, railings, balustrades for balconies
and stairways, bridge parapet railings or
what have you. Write or telephone.

BAYLISS, JONES & BAYLISS LIMITED

Makers of fencing and gates for over a century



HEAD OFFICE: VICTORIA WORKS • WOLVERHAMPTON • TELEPHONE: WOLVERHAMPTON 20441
LONDON OFFICE: 139 CANNON STREET • LONDON • E.C.4 • TELEPHONE: MANSION HOUSE 8524



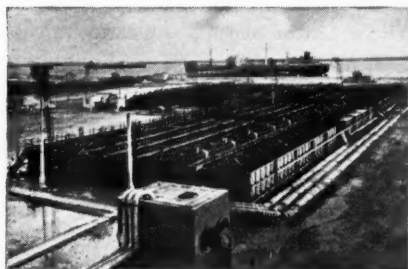
PRESSED STEEL TANKS

*Tanks incorporated in a plant for the generation of gas from waste organic materials.
(Photo courtesy Barter & Sons Ltd., London)*

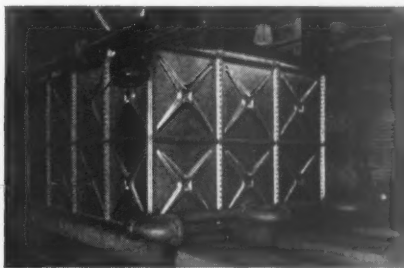
The unlimited range of sizes and capacities in which unit constructed Braithwaite Pressed Steel Tanks can be supplied enables them to be used as component parts of many industrial plants as well as for conventional storage requirements. Full productivity in many industries and the successful completion of work at Laboratories and Research Establishments is frequently dependent on this modern form of liquid storage. Our technical advisory service is available to assist those concerned with the installation of tanks for all purposes.



*Storage of 35,000 gallons
at 82 feet above ground level
for a modern factory*

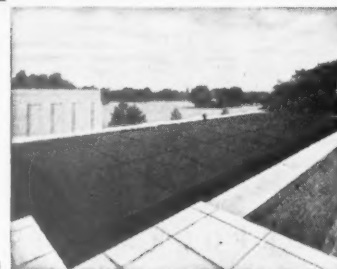


*Tanks for the separation of oil and sludge
from refinery effluent.
(Photo courtesy British Petroleum Co. Ltd.)*



*One of several boiler reserve water tanks
erected inside a power station.
(Photo courtesy Central Electricity Generating Board)*

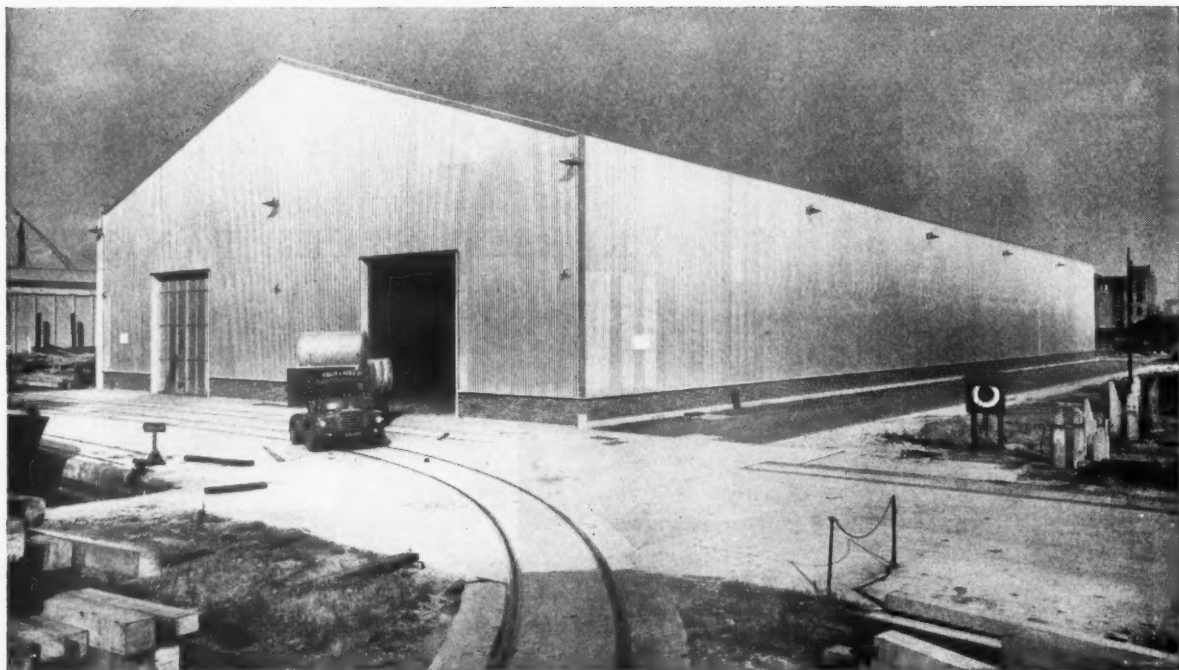
*A covered tank on the roof of
the Clarendon Laboratory (Physics),
Oxford University*



**BRAITHWAITE & CO.
ENGINEERS LIMITED**

BRIDGE AND CONSTRUCTIONAL ENGINEERS

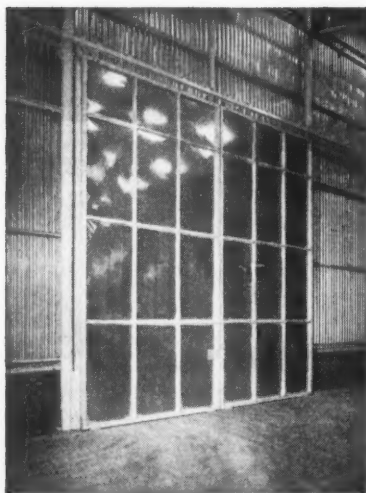
LONDON OFFICE: DORLAND HOUSE • REGENT STREET • LONDON S.W.1 • TELEPHONE: WHITEHALL 3993



Designed and constructed under the supervision of G.A. Wilson Esq., M. Eng., M.I.C.E., M.I.Mech.E., Chief Engineer, Port of London Authority.

BRITISH ALUMINIUM

in the Port of London



This warehouse at Junction Dock, West India Dock, was recently completed for the Port of London Authority. All side and end cladding is in Rigidal Industrial Trough corrugated aluminium sheet, and the sliding doors are aluminium sheet on a frame of welded aluminium sections.

British Aluminium building sheet needs little maintenance, and will last a lifetime in this marine environment.

Main Contractors: Tubewrights Ltd

Cladding: Carter Horseley (Engineers) Ltd

Doors: Alphamin Ltd

The BRITISH ALUMINIUM Co Ltd



NORFOLK HOUSE ST JAMES'S SQUARE LONDON SW1

AP329

COLT *Canadian Cedar Wood* SHINGLES



Southern Grammar School for Boys, Baffins, Portsmouth.
City Architect, Frank Mellor, F.R.I.B.A.

NEW STYLE WALLS with an old and well tried method. Weathering to a pleasant silver grey, Shingles are a most attractive method of providing a distinctive elevation. Nailed to battens on brick, breeze or timber studding, the construction is most economical and is completely weatherproof.

The high thermal insulation of Western Red Cedar makes Shingles a valuable addition to the Architect's vocabulary of modern cladding materials.



Send for full details to Dept. AF. 138/5

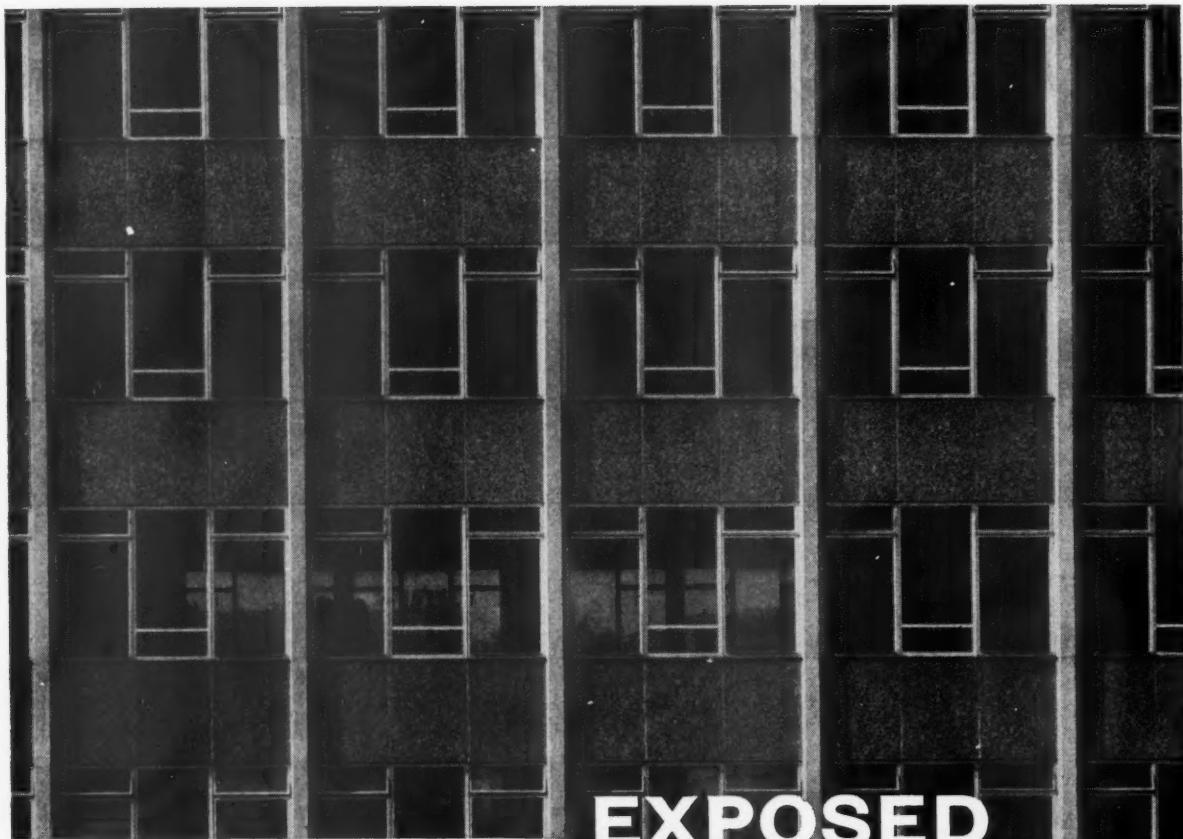
W. H. COLT (LONDON) LTD., SURBITON, SURREY

Telephone: ELMbridge 6511 (10 lines)



Fixing can also be undertaken if required

G.126



EXPOSED AGGREGATE CLADDING PANELS

as used on the imposing new business and shopping block under construction on Hampstead Road, N.W.1.

ARCHITECTS: Leslie C. Norton, A.I.A.A. and E. A. Stone, Toms & Partners

CONSULTING ENGINEERS: R. D. Ward & Partners

CONTRACTORS: Higgs & Hill Ltd.



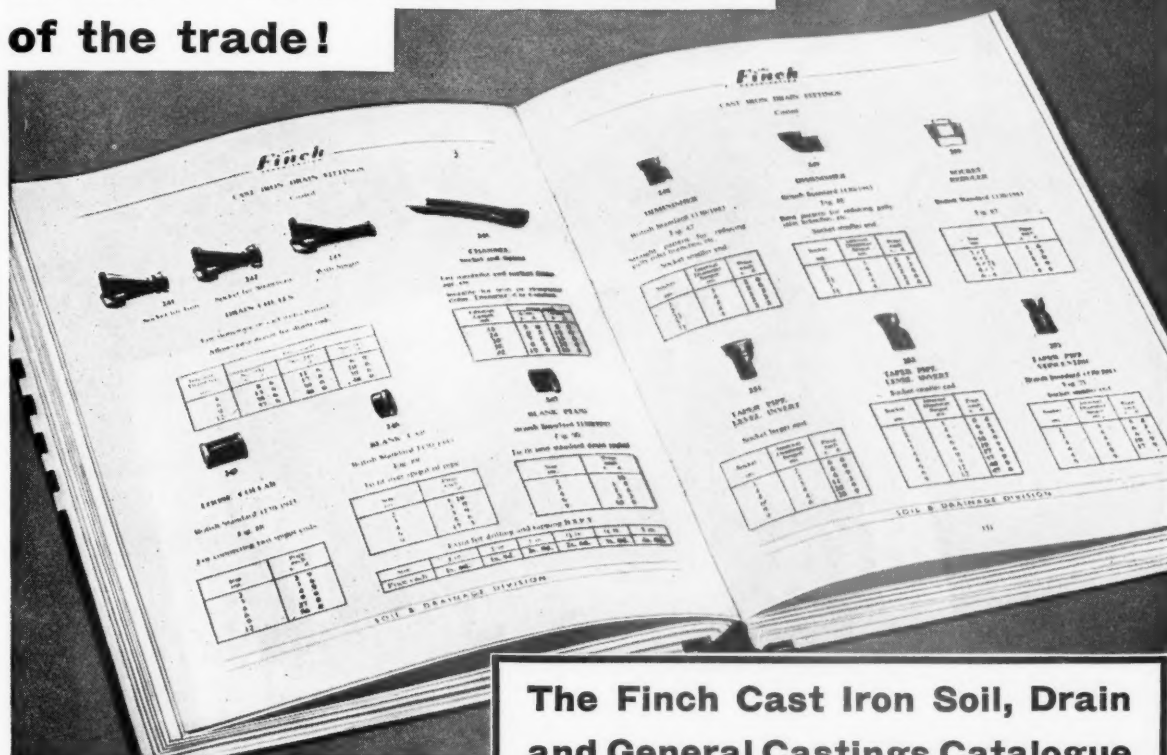
Panels can be made in a variety of finishes and to specified sizes. Information sheets on request.



JOHN ELLIS & SONS LIMITED
21 New Walk, Leicester. Telephone: 56682

London Office: 29 Dorset Square, London, NW1
Telephone: AMBassador 1141/1142 Telegrams: Elliscax, Norwest, London
Birmingham Office: 46 Exchange Buildings, Stephenson Place, Birmingham 2
Telephone: Birmingham Midland 1757

A *SENSATIONAL* technical catalogue issued in 1954 – now the text book of the trade!



The Finch Cast Iron Soil, Drain and General Castings Catalogue

NEW 1959 EDITION NOW AVAILABLE!

Original editions of this catalogue have already been accepted as the finest and most comprehensive text book of its kind ever issued to the trade. Now, Finch bring it right up-to-date with this new, more comprehensive than ever edition. An essential reference book for Architects, Surveyors, Builders and Plumbers, it is divided into sections for quick reference and contains a mass of carefully tabulated technical information, as well as Tables of Measurements, latest fittings, Prices, etc. Over 20,000 copies of the first edition are already in circulation. An overwhelming demand is anticipated for this new special Library Edition which can obviously only have a limited circulation to Architects, Surveyors, Building and Plumbing Contractors. Write today giving name of your Company.

COMPLETELY INDEXED AND PRICED Including 24-page Price List for periodic revision.

the catalogue deals fully with the following subjects



SOIL & WASTE PIPES & FITTINGS • RAINWATER PIPES & FITTINGS • WATERMAIN PIPES & FITTINGS • GUTTERS & RAINWATER HEADS • GENERAL CASTINGS • DRAIN PIPES & FITTINGS & ACCESSORIES • MANHOLE COVERS & FRAMES & ROAD GULLY GRATINGS • SEWAGE DISPOSAL EQUIPMENT SLUICE VALVE & WATER CONTROL APPARATUS PLUMBERS' TOOLS & DRAIN-TESTING APPARATUS

B. FINCH & CO. LTD • BELVEDERE WORKS • BARKINGSIDE • ESSEX VALENTINE 8888 (30 lines)



HANDBOOK EDITION

For general distribution there is this more compact edition of the catalogue designed for practical everyday use both in the office and on the site. Available on application.

CANADIAN TIMBER

...from Canada's vast forests
a wood for almost every need!



"CUTTY SARK" FIGUREHEAD (UNPAINTED) WHITE PINE DONATED BY CANADA

CANADIAN WHITE PINE

Special Properties

- Exceptionally low shrinkage
- Uniform texture, easily worked
- Stable under severe conditions
- Good seasoning, painting and gluing properties

Typical Uses

- Pattern making
- Joinery
- Wood carvings
- Window and door frames
- Household fittings and cabinet work

For further information on Canadian Woods, contact:
Commercial Counsellor (Timber), Canada House, London, S.W.1.

INDUSTRIAL OIL-FIRING

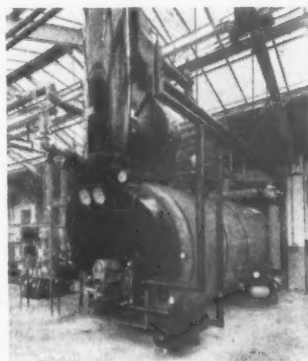


JAMES ARCHDALE & CO. LTD., WORCESTER
C. F. Lawley Harrod, F.I.A.A., A.M.I.E., Architect

* It was decided to install a low-pressure hot water heating system in this machine-tool factory, with radiators fixed against the stanchions to obtain:

1. Even distribution of heat.
2. Clear floor space.
3. Low maintenance costs.

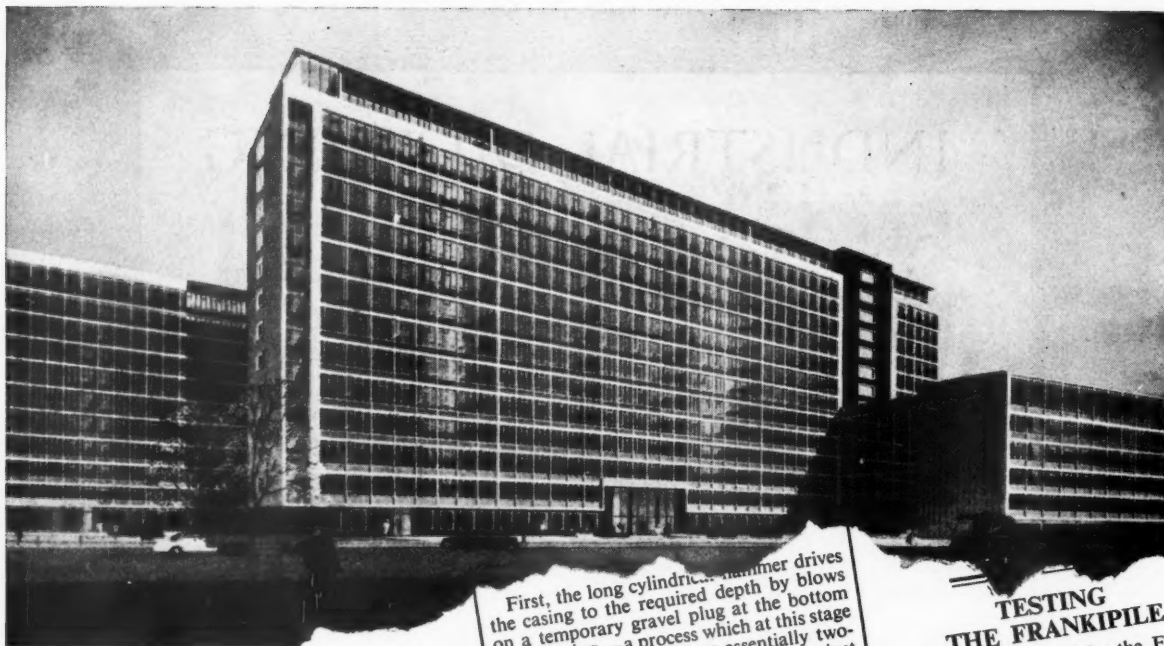
On the right is the Economic Boiler in this installation, fired by a fully automatic Rotary Cup Oil Burner, burning oil of 950 seconds viscosity: a most efficient form of heating with low operating costs.



* Extract from Publication No. 348, copies of which will gladly be sent gratis, on application to

HOPE'S HEATING & ENGINEERING LTD

*Smethwick, Birmingham & 16 Berners Street, London, W.1
Branch Offices at Leeds, Cardiff & Hull*



CONSTRUCTING THE PILE SHAFT

PILE SHAFT

The shaft of the pile is built up by placing successive charges of the semi-dry concrete mix into the tube and ramming each charge. The tube is gradually withdrawn by means of cables attached to the lugs at its top. This dual action forces the concrete into the soil and outwards, consolidating it. The shaft thus formed compresses the surrounding soil as it is forced from the tube.

The pile is greater in diameter than the original hole and is adequate to support the load.

ARCHITECT
Morris de Metz, F.R.I.B.A.

MAIN CONTRACTORS
Token Construction
Company Limited

subsoil as it is
he tube.
is thus greater in diameter than
of the tube, providing adequate
steel reinforcement and at
ensuring the maximum skin
its rough corrugated sur-
face which has already been
by the driving process and is
pressed again by the greater girth
itself.
the formation of the pile shaft a
on the hammer cable serves (in the
way as when the tube was driven) to
maintain the head of concrete necessary to
prevent the entry of water or any other
foreign matter. Should water accidentally
the heavy hammer jams in the
has to be re-driven.
al assurance that a
ement ratio is always
ct this ratio is lower
em of in-situ piling.

FRANKIPILE

FINISHING THE PILE

FINISHING THE PILE
Concreting of the shaft can be stopped at any distance below ground level, always provided the shaft has attained the adequate length for stability. Except in the case of in-situ piles can

First, the long cylindrical hammer drives the casing to the required depth by blows on a temporary gravel plug at the bottom of the casing—a process which at this stage of the operation offers an essentially two-fold advantage. (a) It seals the tube against water on the way down; and (b) the long hammer drop ensures blows of greater intensity (although they cause less vibration) than would be practicable if the hammer were applied to the head of the casing. Obstructions in the subsoil are thus more readily overcome.

LATE NEWS

ST. CHRISTOPHER

HOUSE
SOUTHWARK STREET

A contract has recently been completed for the piling to a large office block on this site. Just under 2,000 piles were installed to about 30' below basement level, each of the piles being capable of withstanding a working load of 60 tons. At one time as many as seven piling frames were working simultaneously on the site. The piling contract was executed by Frankpile Limited, of 39 Victoria Street, London, S.W.1, who offer free literature and advice on piling problems to those Architects and Engineers who wish to avail themselves of this service.

TESTING THE FRANKPILE

THE FRANK
All piles constructed by the Frank
Compressed Pile Co. Ltd., are guar-
anteed to carry the working load specif-
ically guaranteed given by the company is s-
by Lloyd's. normally tested to a l

Piles are normally tested to a 1 per cent greater than the design load, and one of several methods employed to test them.

These methods are the dead load, and one or more men employed to test them. These methods are provided by which the weight is provided by increments of kentledge bearing the pile cap, and two types of the first of these types the weight load of kentledge is transferred on to the pile by means in the second, the jack operates kentledge but against the u from adjacent piles.

These methods can be relied upon to give equally accurate results, the results being generally depending on the quality and the type of knowledge available. Whichever method is used, the results are generally accurate and reliable.

Which ever method is taken at agreed stages during incremental loading until the full test load. The allowed to remain on the min period, which is n recording c

After the recording which may have occurred the load is gradually reduced being taken at each way as when the load is increased.

When the pile is complete, the final reading is taken. This and the reading up is recorded as the permanent record.

1. Use a hard, clean surface

At Your Service throughout the World

When specifying **NATURAL ROCK MASTIC**


**Certificate of Origin
OF
NATURAL ROCK
MASTIC ASPHALTE**

This Certificate is issued to _____
of _____
in respect of (_____) of NATURAL ROCK MASTIC
ASPHALTE purchased from us by the (_____) mentioned for use at _____

ASPHALTE

Rock asphalt has been imported by us from _____ (an) asphalt mine(s) and
conforms with the requirements of British Standards.

ROCK MASTIC ASPHALTE has been manufactured from this (these) _____ in a Works inspected by the British Standards Institution to ensure that the production of mastic asphalt complies with British Standards, and all blocks of this mastic asphalt will accordingly be marked with the following:

- (a) The B.S.M.'s 'Kite' brand certification mark 
- (b) The B.S. No. (viz. 1162, 1418 or 1420)
- (c) The manufacturer's trade-mark.

For and on behalf of _____

Date _____

*Attention is invited to particulars of agreements covering capacities given overleaf

THE TERMS OF THIS CERTIFICATE OF ORIGIN
HAVE BEEN APPROVED BY THE BRITISH STANDARDS INSTITUTION
AND BY THE NATURAL ASPHALTE MINE-OWNERS AND MANUFACTURERS COUNCIL

P.T.O.

insist upon a CERTIFICATE OF ORIGIN

OF THE ROCK asphalt to be used in the manufacture of mastic asphalt.

The terms of the certificate have been approved by the British Standards Institution and by the Natural Asphalt Mineowners and Manufacturers Council, and is issued by the rock mastic asphalt manufacturing members of the Council.

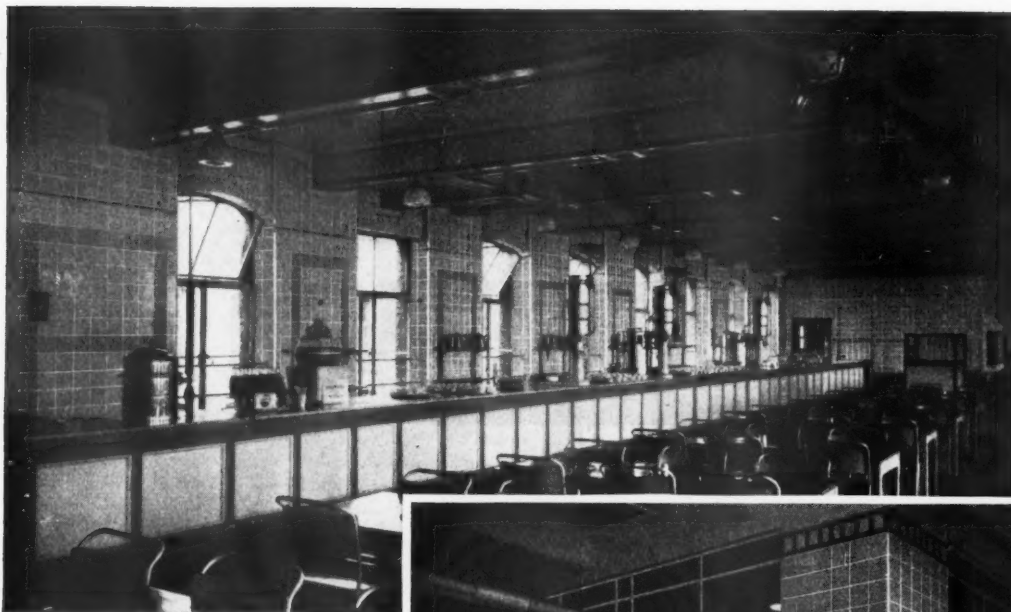


Specimens of the certificate and technical literature are available from

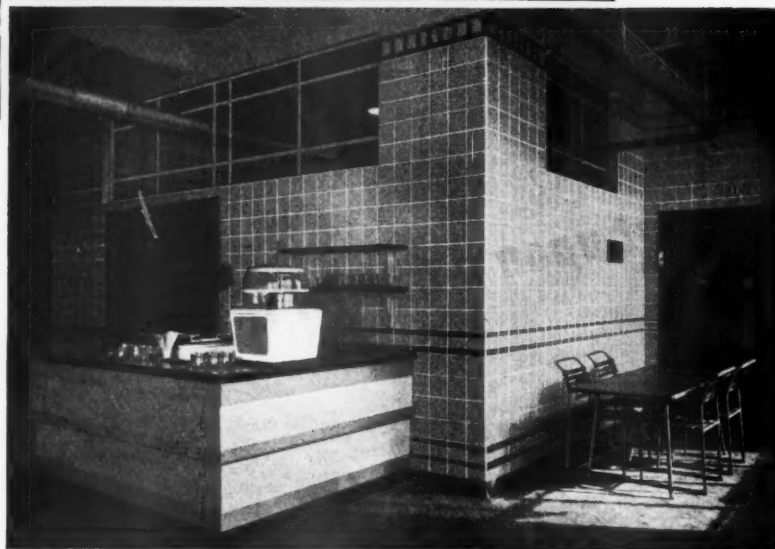
**THE NATURAL ASPHALTE MINEOWNERS
& MANUFACTURERS COUNCIL**

94-98, PETTY FRANCE,
LONDON S.W.1.
TEL: ABBEY 1010.

JOHN PLAYER & SONS
Cigarette and Tobacco Manufacturers
choose Ceramic Tiles



... for Wall Surfaces
in their modern
Factory Restaurant
at Nottingham.
... Ceramic Tiles please
the eye while
fulfilling every
practical need.



Architects: The buildings were erected under the
direction of the Chief Engineer of
The Imperial Tobacco Co. Ltd.

Main Contractors: Wm. Woodsend Ltd. Nottingham.
Wm. Cowlin & Son Ltd. Bristol.

British
Ceramic **TILES**

Glazed & Floor Tile Manufacturers' Association • Federation House • Stoke-on-Trent

Take **ASTOS** the dampcourse

— for permanence, for a toughness that withstands vibration and normal foundation settlement, for easy identification on site. ASTOS, Standard or lead-lined, the original asbestos/bitumen dampcourse, complies with the British Standard requirements (B.S. No. 743, 1951). 24 ft. rolls, in wall widths up to 36 in. Standard (Type 5C) 7-lb. per sq. yd. Lead-lined (Type 5F) 9½-lb. per sq. yd.



Take Zylex Slaters' Felt as a secondary roof under tiles or slates, to prevent damage due to roof defects, to reduce heat loss. Reinforced Zylex for open rafters, Standard for boarded roofs, and Aluminium Foil Surfaced for even greater reduction of heat loss. Take ASTOS and ZYLEX for perfect protection and insulation. Specify them together.



For technical literature write to:

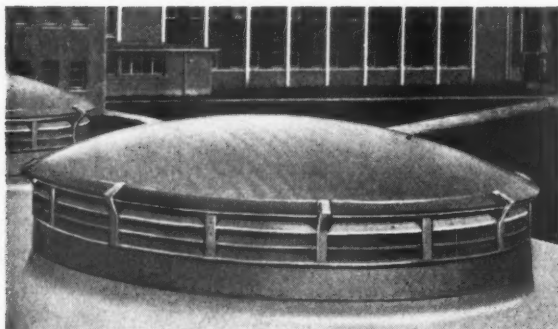
THE RUBEROID COMPANY LIMITED • 485 COMMONWEALTH HOUSE • 1-19 NEW OXFORD STREET • LONDON WC1

ZA461a

Ventilation *plus* daylight

WITH GREENWOOD-AIRVAC ROOFLIGHT VENTILATORS

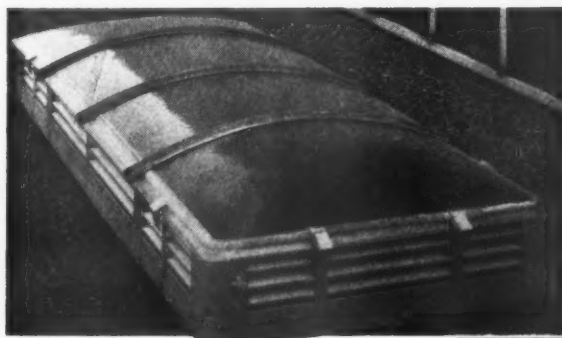
Specifically designed to give both low overall height and unobtrusive appearance, the Greenwood-Airvac patented range of Dome and Continuous Rooflight Ventilators provides fully weathered controllable or permanent ventilation with maximum daylight.



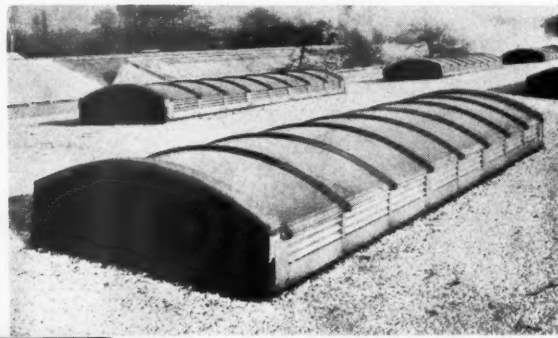
Circular Dome ventilators are supplied from 18" diameter to 72" diameter. This is one of a number of units installed at the Gormans-town Franciscan College, Co. Meath. (Architect: John C. Thompson, B. Arch., A.R.I.B.A.)



Rectangular dome ventilators are available from 30" x 30" to 48" x 72". Large numbers have been specified by the Chief Architect at Crawley New Town. (Chief Architect: H. S. Howgrave-Graham, A.R.I.B.A., A.M.T.P.I.)



This Half Dome End Continuous Rooflight Ventilator is one of twenty 8' 0" x 4' 0" units at S.E.G.B. Belvedere Generating Station, Kent. Available in extended lengths from 8 ft. with nominal widths up to 6 ft. (Architects: Farmer & Dark F/R.I.B.A.)



Gable End Continuous Rooflight Ventilators 16 ft. long x 5 ft. 2 ins. wide were installed on the Textile Paper Tube Factory, Romilly, Cheshire. Supplied in extended lengths from 4 ft. with nominal widths up to 7 ft. (Architects: Arthur Swift & Partners.)

Illustrated technical leaflets on the full range of Dome and Continuous Rooflight Ventilators are available on request.

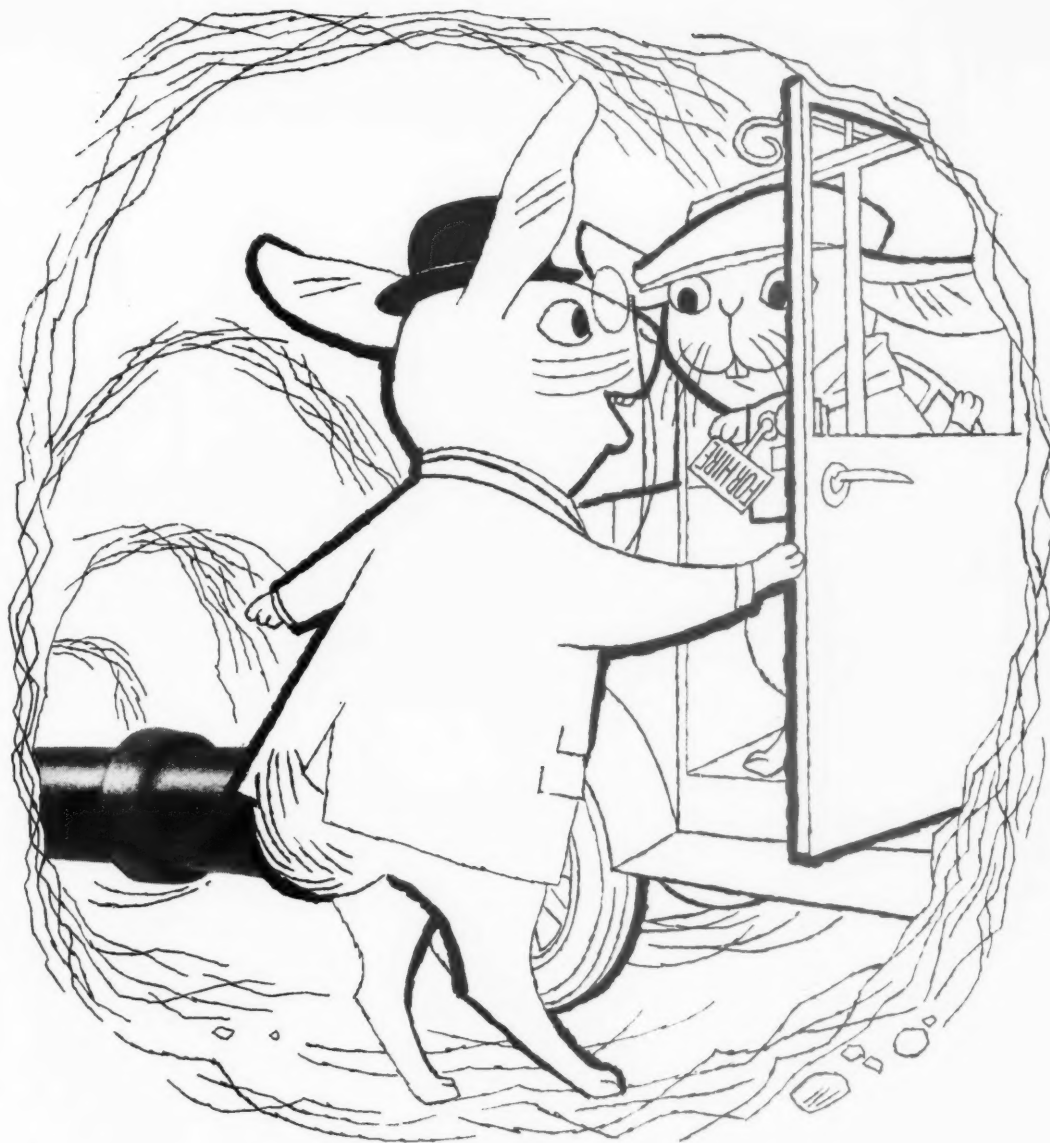
Greenwood-Airvac ventilation

GREENWOOD'S AND AIRVAC VENTILATING COMPANY LTD
ESTABLISHED 1879

PATENTEES, DESIGNERS AND MANUFACTURERS OF
NATURAL AND MECHANICAL VENTILATING
EQUIPMENT



BEACON HOUSE, KINGSWAY, LONDON, W.C.2
CHANCERY 8135 (4 lines). Grams: 'AIRVAC', LONDON



'Follow that pipe!' shouted Baron Rabbit, jumping into a taxi.

'Yes, your Honour', said the taxi-driver, speeding furiously away.

'Keep it in sight, now', cried the Baron.

'It's a genuine salt glazed clay drainpipe—virtually impermeable, immune to moulds and fungus, resists all the common acids,

can't be scratched by grit or buckled by heat, strong enough to last for centuries—'

'Your Honour—', said the taxi-driver.

'Yes yes, what is it, man?' said the Baron.

'It's not moving', said the driver.

'Not moving?' said the Baron. 'A pipe with such eminently estimable characteristics? You philistine! **I** find it intensely moving!'

Salt Glazed Clay Pipes—for drainage, for ever

NATIONAL SALT GLAZED PIPE MANUFACTURERS' ASSOCIATION

PLATFORM HOIST

for
**Barclays
Bank
Limited**

The hoist shown in the illustration was recently installed at Barclays Bank Limited, High Street, Crawley, Sussex, and is used to take trolleys loaded with bullion, ledgers, etc. from the strong room in the basement to the banking room on the ground floor.

J. & E. HALL

LIMITED

DARTFORD, KENT

LONDON OFFICE

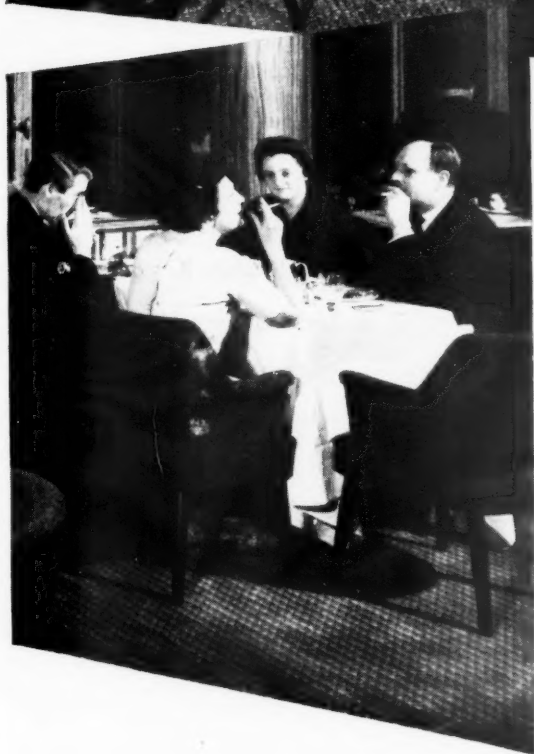
10 ST. SWITHIN'S LANE, E.C.4



ARCHITECT: Frank Senior, R.I.B.A.

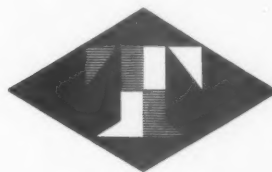
TOMKINSONS CARPETING

in the new 'Samuel Whitbread'
in London



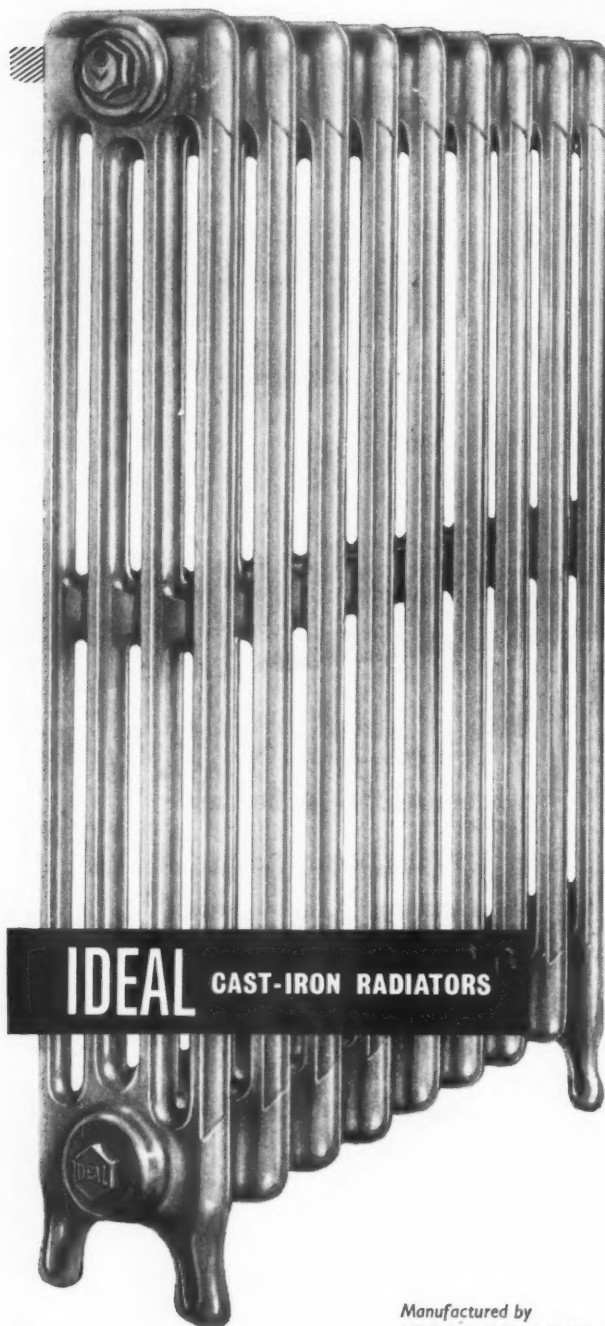
In the Zodiac Bar,
Tomkinsons 'Tesserae' in grey.

In the Dining Room,
Tomkinsons 'Linked Design'
in red and black and green and black.



TOMKINSONS LIMITED
P.O. Box No. 11
KIDDERMINSTER, WORCS.

Cast-iron for long life!



437A

Because they resist corrosion, Ideal cast-iron radiators have an exceptionally long life. This is further ensured by their strength and accuracy of construction. Then there is the advantage of high heat transmission. And when adaptability is considered, Ideal column radiators offer the advantages of sectional construction not only at the planning stage but at all times. After installation it is quite simple to 'make and break' the radiators to add or remove sections.

Pictured is the Ideal No. 4 Neo-Classic Radiator. The Neo-Classic is available with two, four or six columns per section and in four heights.



Manufactured by
IDEAL BOILERS & RADIATORS LIMITED • IDEAL WORKS • HULL

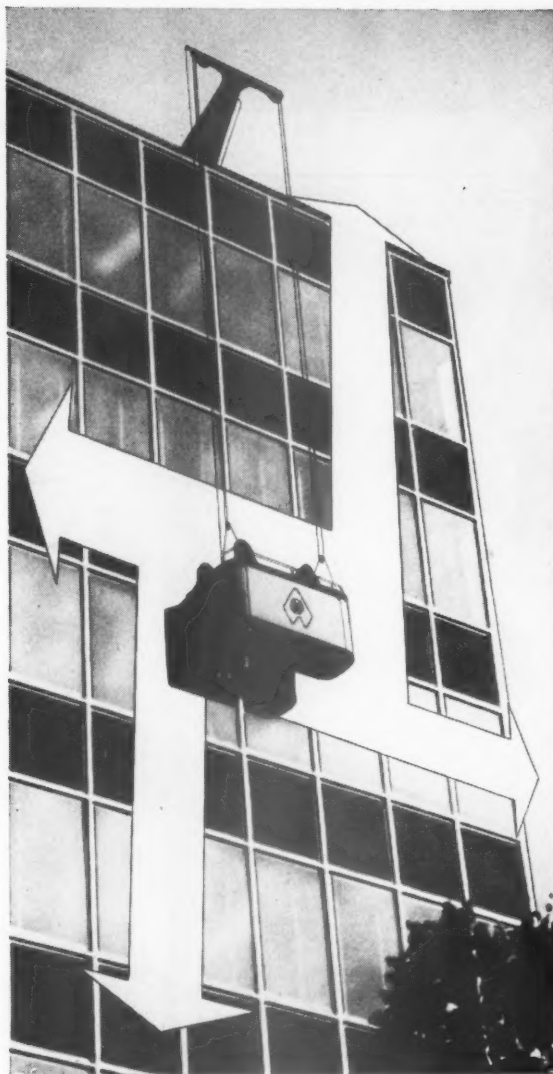
MILLS

POWER OPERATED ROOF CRADLES

BUILT IN—FOR LOWEST COST MAINTENANCE OF BUILDING FACADES

One of the most urgent problems brought about by the recent trend in multi-storey building has been the difficulty in cleaning, decorating and repairing building facades.

Mills Scaffold Co. have introduced a power operated roof cradle which will provide safe and easy access to the exterior of high buildings. Now workmen can complete a cleaning and decorating job at four times the speed they could achieve using a conventional hand operated cradle.



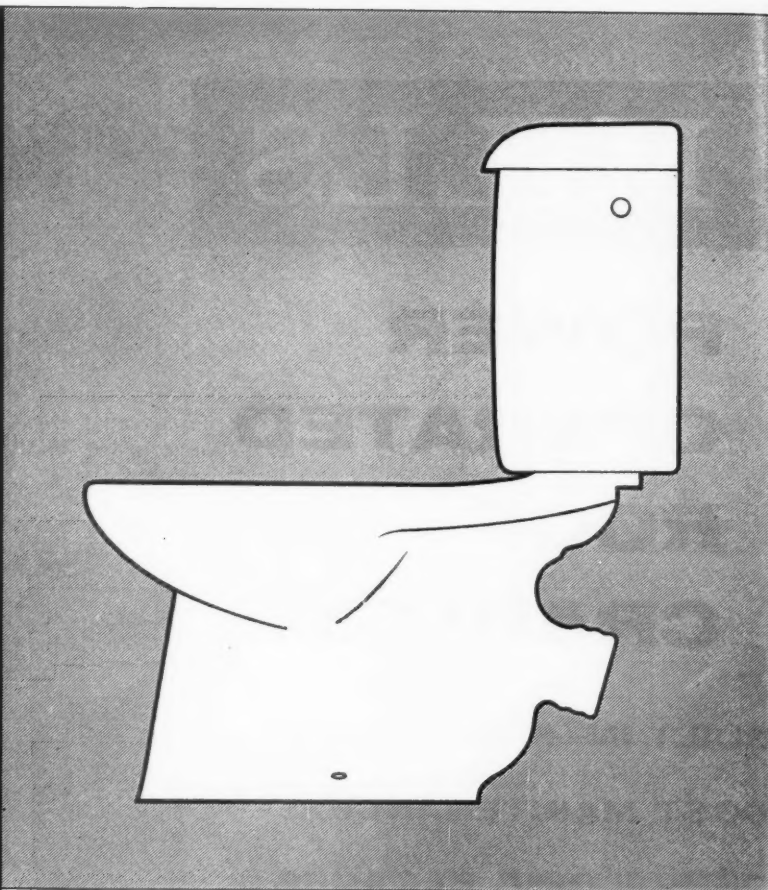
- ★ The cradle track is permanently installed on the roof.
- ★ Rotating jib swings 'inboard'—invisible from street level.
- ★ No fittings on face of building.
- ★ Foolproof safety system operates even when power is cut off.
- ★ Cradle can be manually operated.
- ★ Suitable for installation on new and existing buildings.

A fully illustrated brochure has been prepared giving detailed information about Mills Power Operated Roof Cradles. Please write or telephone for your copy to:

MILLS SCAFFOLD CO. LTD., Trussley Works, Hammersmith Grove, London, W.6. Telephone: Riverside 3011



design



material

Fine design and a double-trap siphonic action are significant features of the new Kingston closet by Standard. But just as important is the material from which it (like the matching lavatory basin) is made. Standard vitreous china is non-porous and hygiene does not depend solely on the glaze. This, together with its great strength, makes it the most suitable material for sanitary ware. For good design in the right material, specify Standard vitreous china.

vitreous china by **Standard**

ures
the
ade.
end
the
the

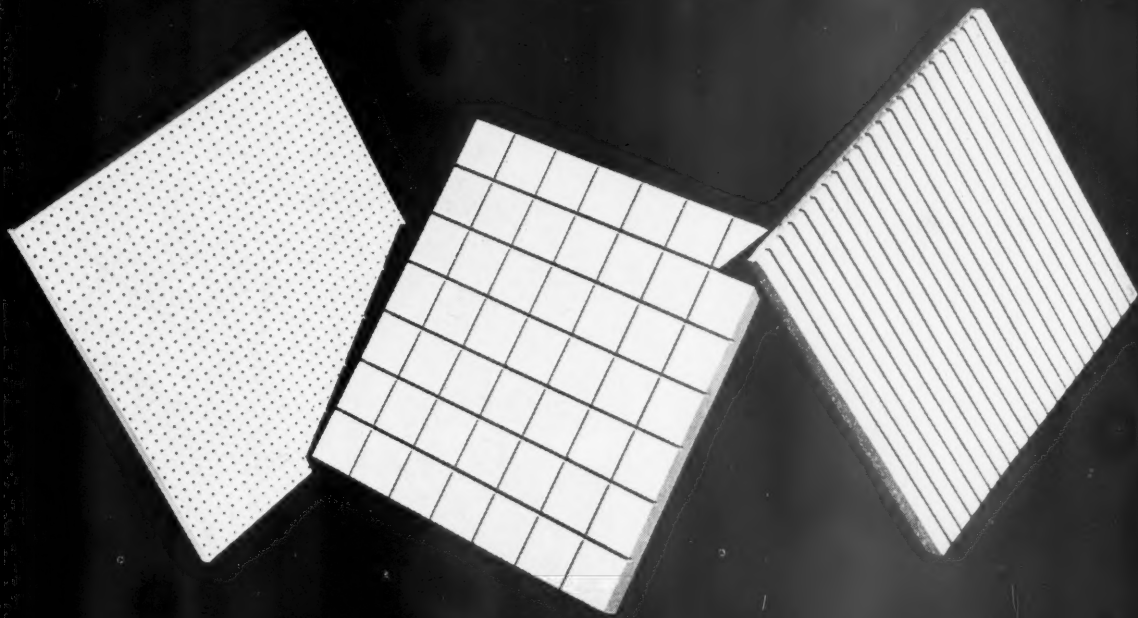
rd

HULL

JOURNAL



CONTEMPORARY



ACOUSTICS!



Swiss pressed wood-fibre Perforated, Rilled and Chequered acoustic tiles and Rilled Boards 8' 2" in length, all Factory Primed.



Contemporary acoustic wall and ceiling treatments in new and decorative materials.



High acoustic efficiency, absorption co-efficients increasing progressively from 0.45 at 250 c.p.s. up to 0.90 at 4,000 c.p.s.



Low thermal conductivity (0.35 B.T.U./in./sq.ft./hr./°F diff.) thus providing valuable heat conservation at no extra cost.

Surveys, estimates, designs & specifications without obligation

HERMESEAL

HERMESEAL ACOUSTICS LIMITED

HEAD OFFICE: 4 PARK LANE, LONDON, W.1. Telephone: GROsvenor 4324 (5 lines).



"LIGHT MUST FALL"
is the title of our new
colour film on the subject of
patent glazing. This is
a technical production and shows
the manufacture and application
of the glazing bar. It is available
free of charge to architectural
Associations or Societies.
Please write: Dept. E.S.H.

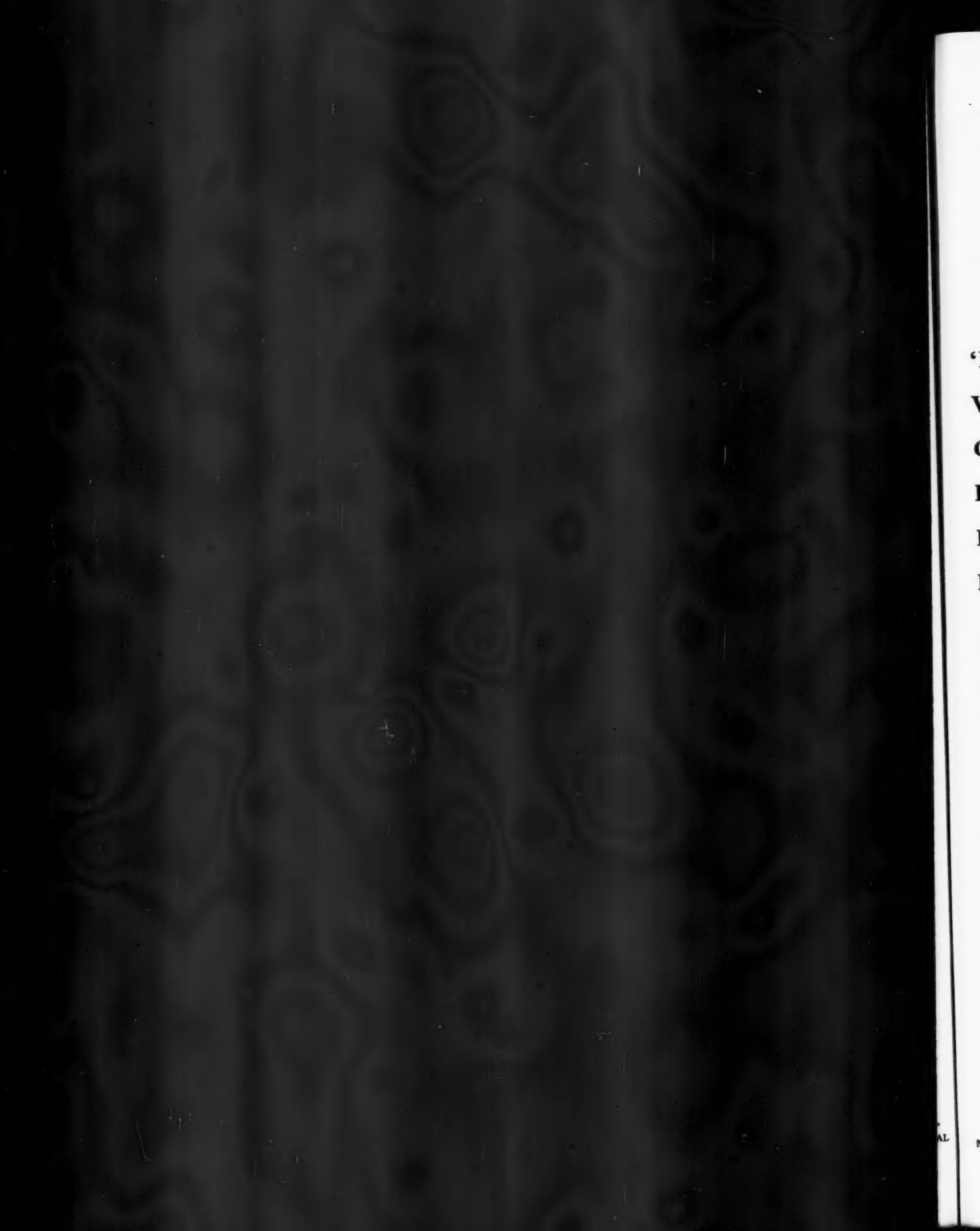


Specify

HEYWOODS
OF HUDDERSFIELD

*For Quality & Efficiency in patent
roof & vertical glazing; an integral
part of the industrial picture.*

BAYHALL WORKS • HUDDERSFIELD • Tel: Huddersfield 6594



V
C
R
N

AL

This attractive house, which is the property of Mr. & Mrs. Douglas Dawn, Ballywilliam, Donaghadee, Co. Down, N. Ireland, is of concrete brick and has been treated with a two coat application of 'PUDLO' Waterproof Cement Paint.

This pleasing and modern design was drawn up by the Diocesan Architect for the Church of Ireland for Down and Connor.

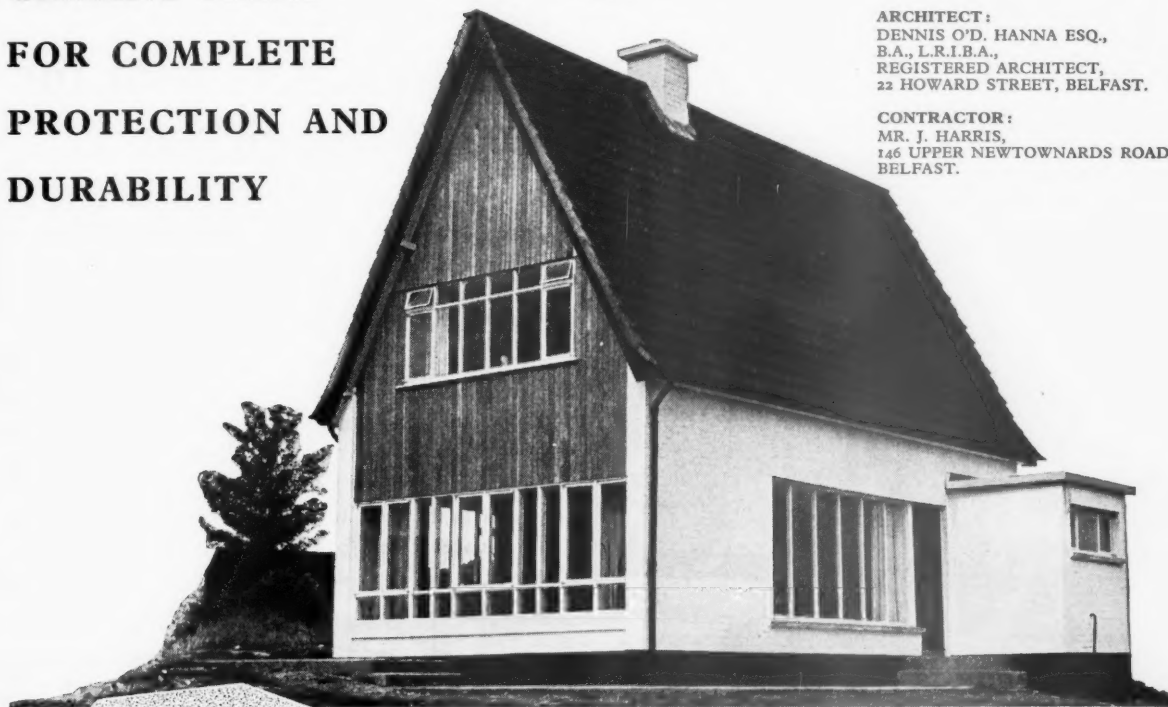
The problem of satisfactory maintenance and protection was carefully considered so as to enhance the attractive appearance and yet preserve the structure. 'PUDLO' Waterproof Cement Paint was specified for the work as it contains the famous 'PUDLO' Cement Waterproofing Powder and guarantees the protection of outside surfaces against all climatic conditions.

'PUDLO' Waterproof Cement Paint is available in an attractive range of colours, and contains a surface active agent which ensures a ready mix with water, good bonding and spreading properties, thus ensuring an easy even spread.

'PUDLO'
WATERPROOF
CEMENT PAINT
FOR COMPLETE
PROTECTION AND
DURABILITY

ARCHITECT:
DENNIS O'D. HANNA ESQ.,
B.A., L.R.I.B.A.,
REGISTERED ARCHITECT,
22 HOWARD STREET, BELFAST.

CONTRACTOR:
MR. J. HARRIS,
146 UPPER NEWTOWNARDS ROAD,
BELFAST.



Get full particulars of 'Pudlo' Cement Paint NOW—available on request.

OTHER 'PUDLO' BRAND PRODUCTS INCLUDE:

Cement Waterproofing Powder	Mortar Plasticiser
Cement Paint Primer	Plaster Bonder
Cement Bonder	Liquid Cement Additive
Frost Protector &	External Water Repellent
Rapid Hardener	'Feusol' Fire Cement

Sole Proprietors and Manufacturers:

KERNER-GREENWOOD & CO. LTD. KING'S LYNN, NORFOLK. TELEPHONE: KING'S LYNN 2293

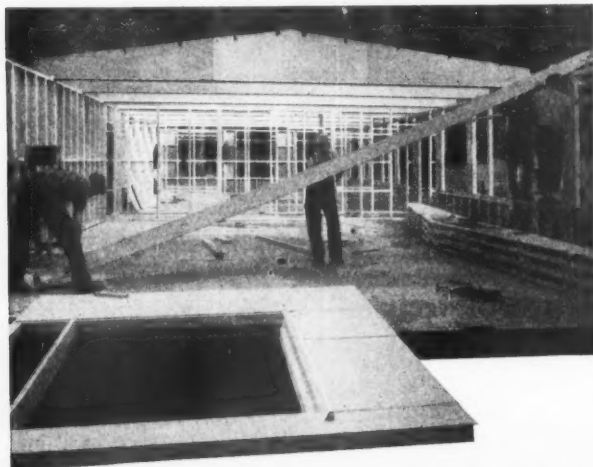


GRENVILLE COLLEGE a new private school in Suffolk (shown here under construction) was prefabricated by D. McMaster (Bures) Ltd., and Canadian fir plywood building components were erected on the site in 6 days.

prefabrication with Canadian fir plywood

Prefabrication of school building components is *one* place where Canadian fir plywood cuts costs. Canadian fir plywood—a grade to suit any job—is structurally strong, light, easy-to-handle without breakage, and permanently bonded with waterproof glue.

Prefabricated building components, made with low cost Canadian fir plywood, save the manufacturer money on material, labour and transport. *Ask your timber & plywood supplier about prices.*



CANADIAN DOUGLAS FIR PLYWOOD

For free technical data on fir plywood prefabrication write to:-
PLYWOOD MANUFACTURERS ASSOCIATION OF BRITISH COLUMBIA
WHEATSHEAF HOUSE, 4 CARMELITE STREET, LONDON, E.C.4.

FIR PLYWOOD MARKED **PMBC EXTERIOR** HAS WATERPROOF GLUE
59-20



Why architects now specify a rubberised paint for steamy conditions

SISCOMATTE is the leading rubberised paint in Britain. It has been specified by architects throughout the country for kitchens, bathrooms, canteens, factories, and other situations where steam or condensation presents a problem. They have chosen **Siscomatte** because:

- (a) It has the maximum resistance to steamy conditions.
- (b) It has an unusually high titanium oxide content, which gives outstandingly good opacity. Where a surface can be covered in one coat, **Siscomatte** can do it.
- (c) It is the easiest Wall Paint there is to apply.
- (d) It is the most beautiful thing in Wall Paint, which makes it ideal for all rooms.

We shall be very pleased to supply samples and full information.

SISCOMATTE STEAMPROOF rubberised paint

There is a full range of Sissons paints for every decorating purpose, backed by 150 years' experience. Among them:—

**TUNGOLAC SUPER
GLOSS FINISH
CALCARIUM WATER PAINT
SISSONS FLOOR DRESSING**

COLOUR SCHEME SERVICE

Our representative will gladly call to discuss special requirements for contract work.

SISSONS BROTHERS AND CO. LTD., BANKSIDE, HULL



'BULLDOG'

is the registered trade mark of
Britain's finest floor and ceiling clips

Only The Adamite Company is entitled to call its clips "Bulldog Clips". Only Adamite Bulldog Clips deserve such a name . . . they have a pedigree beyond dispute and a far stronger 'bite' than inferior imitations. There are two main types: The Bulldog Standard Clip which ensures a strong hold on floor and ceiling battens, preventing movement and squeaking, and the Bulldog Acoustic Clip, which does the same job for floor battens, at the same time reducing impact noise by 15 per cent. Acoustic clips also provide a degree of springiness which makes them ideal for use in gymnasia, ballrooms, etc. Full details of this range are contained in Bulletin 10. Please write for your copy.

'BULLDOG' clips are manufactured
solely by

THE ADAMITE COMPANY LTD



94-98, PETTY FRANCE, LONDON, S.W.1.

Telephone: ABBEY 5911

What we mean by
"Expert treatment"



The use, in complete safety and with great skill, of all the most up-to-date methods of wood-boring pest control—that's the expert treatment available when you consult L.F.C.

Many years experience in the elimination of pests in structural woodwork enable our highly skilled staff to give any advice or assistance you require.



the LONDON FUMIGATION CO LTD

Experts in all methods of insect pest control

LONDON	Marlow House, Lloyd's Avenue, London E.C.3.	ROYal 7077/8/9
MANCHESTER	29 Minshull Street, Manchester 1	CENtral 0842
BRISTOL	181 Easton Road, Bristol 5	BRISTol 58521

PLASTAWELD BONDING

CUTS LABOUR COSTS!

PLASTAWELD gives a Permanent Bond for gypsum plasters yet slices expensive labour costs—for there's no stippling, no blinding with sand, no hacking, no noise, dust or dirt! And PLASTAWELD costs so little: that's worth thinking about when you consider that out of a gallon tin comes enough PLASTAWELD to cover 100 square yards, depending on the surface. MANGER'S PLASTAWELD is the 'key' that goes on straight from the tin, being specially suitable for bricks, smooth shuttered concrete, tiles and even asbestos. Ideal for browning backing as well as skimming, architects everywhere specify PLASTAWELD Permanent Bonding Fluid for Hospitals, Factories, Schools, Military and Ministry of Works projects. Specify PLASTAWELD for all your work, too.



When you've any problem please write or phone our Technical Department.

J. MANGER & SON LTD., Dept. RJ, London, E.8 CLIssold 8521 (5 lines)



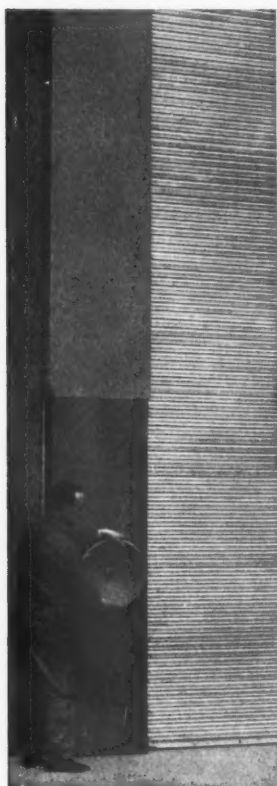
Burgess Suspended Ceilings!

BURGESS PRODUCTS COMPANY LIMITED
ACOUSTICAL DIVISION, HINCKLEY, LEICESTERSHIRE

Milner for



all roller shutters!



Milner have 50 years of experience in making shutters—their workmanship is of the highest standard—they use only the finest materials.

Among the many exclusive advantages of Milner shutters are these:

Ball bearings at every friction point. Deep side guide channels for security. Close-coiled helical torsion springs ensuring a balanced curtain and ease of operation. Deep section curved slats for strength.

Specifications available for 10 different types of roller shutters and wicket gates. You can choose the shutter best suited for your particular needs from MILNER.

Milner

**STEEL EQUIPMENT DIVISION
OF HALL ENGINEERING LTD**

Makers of office equipment, shutters and partitioning
Central Sales Office: 60 Rochester Row, London, S.W.1
Telephone: VICTORIA 5831
Branches at Birmingham, Bristol, Glasgow, Leeds, Liverpool and Manchester

**There is
nothing to
equal LEAD
for flashings
to roof-lights**

THE LEAD SHEET AND PIPE

TECHNICAL INFORMATION BUREAU

advises on the use of Lead in building work. Most of the many uses are detailed in the Association's publications, and in addition the Bureau's technical officers are always glad to give individual assistance.

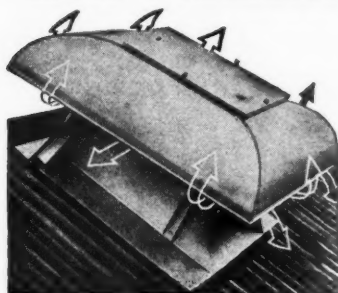
h

LEAD DEVELOPMENT ASSOCIATION

18, ADAM STREET, LONDON, W.C.2

Telegrams: Leadevep, Rand, London. Telephone: WHIttehall 4175

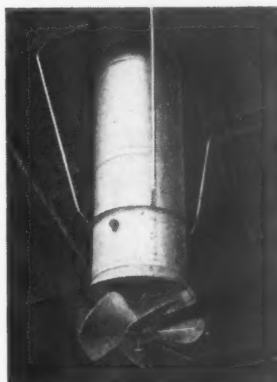
Roof Ventilator



The 'Airflo' Powered Roof Ventilator can easily be incorporated into any building scheme. Fits any roof angle and is light enough to use on iron or corrugated roofs. Unit supplied assembled ready for fixing.

from £29 15s. 0d.

Air Diffuser



The 'Airflo' Diffuser unit offers the best method of ventilating single storey workshops. Fresh air is drawn into the premises and discharged directly over the working area. A variably pitched diffuser regulates the effective area of ventilation and this can easily be controlled from below by engaging a hooked rod on the operating handle. The height at which the fan has to be fixed is immaterial since the coverage and intensity of air movement can be adjusted at will.



a great service to industry

Industrial Fan & Heater Co Ltd

'Airflo' Works: BIRMINGHAM, 11 Phone: VICTORIA 2277
and at LONDON • MANCHESTER • SWANSEA

A Member of the *Sinns* Group



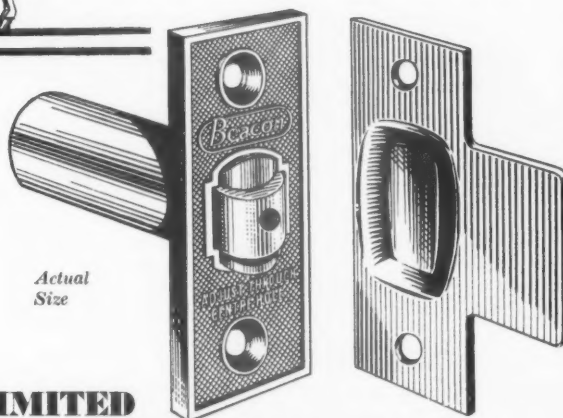
for
the
modern
door

Beacon

**FRONT
ADJUSTABLE
ROLLER
CATCH**

Popular with householders and builders alike, because it is efficient in operation, yet neat and unobtrusive in appearance. Tension and projection of catch easily adjusted after fitting with small screwdriver through hole in centre of roller.

Zinc diecast construction and finished Florentine Bronzed or Bright, Lacquered. Faceplate dimensions $2\frac{1}{4} \times \frac{7}{8}$.



Actual
Size

SMITH and DAVIS LIMITED

22, BEACON WORKS • FRIAR PARK ROAD • WEDNESBURY • STAFFORDSHIRE

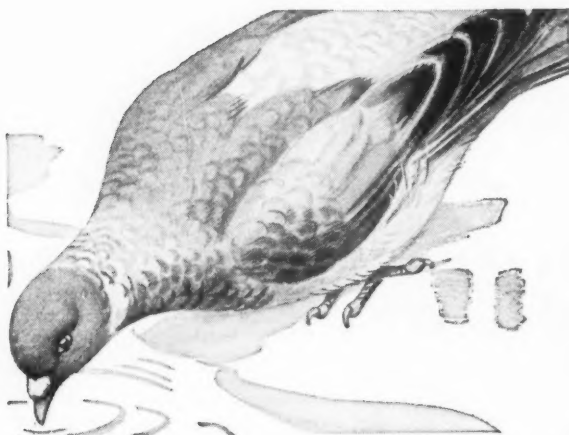
Telephone: WEDNESBURY 0721-5

Telegrams: BEACONITE, WEDNESBURY

LONDON OFFICE: 61-62 BROAD STREET AVENUE, BLOMFIELD STREET, E.C.2

Telephone: LONDON WALL 2181

Telegrams: BEACONIUM AVE., LONDON



Our pigeon is 'joints-that-move'

A problematic 'pigeon' these constructional 'joints-that-move', but for all jointing requirements, Expandite Limited manufacture joint-fillers and sealing compounds to meet every specialised application.

<p>SEELASTIK*</p> <p>All-purpose flexible Sealing Compound for weatherproof seals where movement may occur.</p>	<p>MULSEAL*</p> <p>Bitumen/Rubber latex weather-proofing emulsion. Forms a tough, rubbery membrane. Applied by brush or squeegee.</p>
<p>FLEXCELL**</p> <p>Non-extruding Joint Filler for expansion joints containing sugar cane fibre. 70% recovery after compression.</p>	<p>PLI-ASTIC*</p> <p>Hot-poured Rubber-Bitumen Joint Sealing Compound. Strong adhesion to concrete. Excellent top-sealer for Flexcell.</p>
<p>AEROLASTIC*</p> <p>Hot-poured Horizontal Joint Sealing Compound with high resistance to heat, jet blast and fuel spillage.</p>	<p>PLASTIJUNT*</p> <p>Bituminous Putty for vertical joints in buildings and water retaining structures. Does not require accurately formed cavity.</p>

*REGISTERED TRADE MARKS.

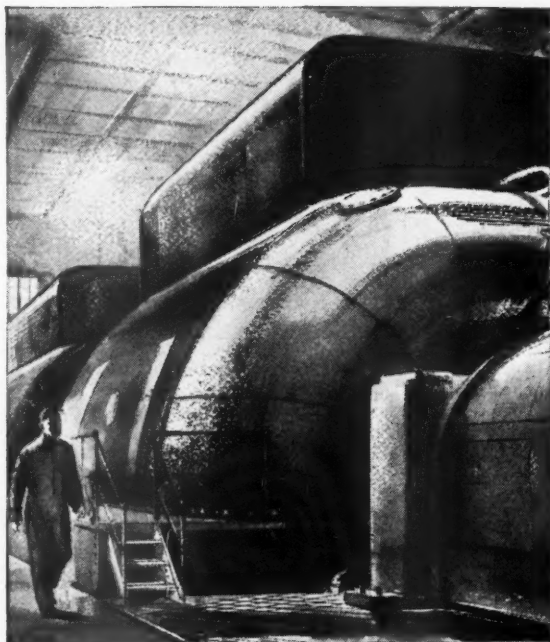
†SPECIALLY MANUFACTURED BY CELOTEX LTD.

Allied 'pigeons'—damp-prevention and weatherproofing as well as the manufacture of concrete additives, these too have been taken in hand by Expandite Limited. Wherever a joint needs filling or a gap needs sealing, specify EXPANDITE PRODUCTS.

**EXPANDITE
LIMITED**

Chase Road, London, N.W.10. Tel: ELGar 4321 (14 lines)

ASSOCIATES AND DISTRIBUTORS THROUGHOUT THE WORLD



The world's largest Generators will help to fill the demand for still more power

The development of nuclear energy for generating electricity is still front-page news. Less publicised, though no less outstanding, are new developments in "conventional" generating plant. The turbo-alternator shown here is a 550,000 kilowatt unit—twice the capacity of the next largest on order for the Central Electricity Generating Board. It has been designed for the projected new power station at Thorpe Marsh. For Blythe 'B', another new station, 275,000 kilowatt in-line units are on order. They will be powered by steam at 2,350 lb. per sq. in. and 1,050°F, with reheat to 1,000°F.

Nuclear power will play an important part in meeting the ever-increasing demand for electricity. Work is now in progress on the first three nuclear power stations, at Bradwell, Berkeley and Hinkley Point. By 1966/7 some 5 to 6

million kilowatts of nuclear-generated electric power will be available.

Though these projects will not be completed for some time, the Central Electricity Generating Board plays an important part in today's fight against inflation. Power stations are being built at a cost no greater than in 1948—£50 per kilowatt installed. And, although the output of the industry has doubled since 1948, the increase in manpower is only about one-third.

By providing today for the power we shall need in years to come, the Central Electricity Generating Board is building a secure foundation for our future prosperity.



THE CENTRAL ELECTRICITY
GENERATING BOARD

LOOK INTO



VERMICULITE

before specifying insulating materials

Especially for floor and roof screeds
plasters • loose fill

Write for details to
The Association of Vermiculite Exfoliators
51-55 Strand, London, WC2 Tel: TRAfalgar 7888



The illustrations show a typical heater unit, and also the unit fitted to a single tier locker aisle.

Plenum heat unit

The unit is designed for use with any of our standard types of locker, and is specifically intended for the smaller size of Amenity Block which does not justify a centralised heating plant.

It fully covers all the Welfare requirements for heating and drying at very low running costs with most modest capital outlay.

Our technical representative will be pleased to give you full details of this important addition to our lockering service.

SPEEDWELL
GEAR CASE CO. LTD.

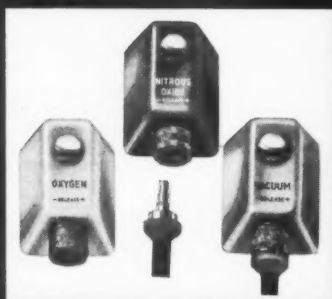
TAME ROAD, WITTON, BIRMINGHAM 6.

PHONE EAST 2261 GRAMS "SPEEDWELL" BIRMINGHAM 6.

British Oxygen Equipment and Gases...

Pipelines for Medical Gases

In modern hospitals piped supplies of medical gases are now an essential part of routine efficiency. They enable medical gases to be used immediately in wards, operating theatres and any other part of the hospital, without transporting cylinders from place to place. Increased safety and lower gas costs are additional advantages of installing pipelines. For details of the design and installation of pipelines, please write to British Oxygen Gases Limited, Medical Division, Great West Road, Brentford, Middlesex.



...used every day to ease pain and save lives

BRITISH OXYGEN



"UNIQUE" *Spiral* BALANCE

**Many
famous
wood and
metal
window
manufacturers
incorporate**

Unique
**sash
balances**



Full particulars from

UNIQUE BALANCE CO., LTD.

YEovil

ENGLAND

Telephone :-

Yeovil 2231-2

FOUNDED 1882



The Institute of Clerks of Works of Great Britain (Inc.)

NORTHERN IRELAND CHAPTER
7 COLLEGE SQUARE NORTH, BELFAST. Hon. Sec.:
J. A. Kirkpatrick, 22 North Gardens, Bloomfield, Belfast.

NORTHERN CHAPTER
4 WOODHOUSE SQ., LEEDS, 1. Hon. Sec.: J. HIRST,
9 Willowfield Crescent, Bradford 2.

SCOTTISH CHAPTER Royal Incorporation of
Architects in Scotland, 15 RUTLAND SQUARE,
EDINBURGH, 1. Hon. Sec.: R. G. JACK, 61 Drum Brae
South, Edinburgh.

NORTH WESTERN CHAPTER Manchester
Society of Architects, 16 ST. MARY'S PARSONAGE,
MANCHESTER. Hon. Sec.: T. S. PARKINSON, 28
Marland Crescent, Barlowfold, Reddish, Stockport,
Cheshire.

MIDLAND CHAPTER Chamber of Commerce, 95
NEW STREET, BIRMINGHAM, 2. Hon. Sec.: L. D.
PINFOLD, Glen Tor, Birmingham Road, Bacon's End,
Coleshill, Nr. Birmingham.

ARCHITECTS, SURVEYORS, ENGINEERS requiring Clerks
of Works are invited to apply to
The Secretary, E. W. HAZELL, A.C.I.S.
LIVERPOOL HOUSE
15/17 ELDON STREET, LONDON, E.C.2

Examinations will be held at the Royal Institute
of British Architects, 66 Portland Place, W.1.
Examinations are also being held at 15 Rutland
Square, Edinburgh.

STRUCTURAL MECHANICS

By W. MORGAN, B.Sc., A.M.I.Struct.E.,
and D. T. WILLIAMS, A.M.I.Struct.E.,
M.Soc.C.E.(France).

This new book commences at the beginning
of the subject and treats its fundamental
principles with the simplest mathematics.
Graphical and calculation methods of
determining forces and reactions in
structures are given and the design of
simple structural members in timber, steel
and reinforced concrete is dealt with in
detail. A large number of problems are
included also. Suitable as a first course in
Structures for all students of Architecture,
Building, Surveying and Engineering, the
book covers the syllabuses of the Inter-
mediate Examination of the R.I.B.A., the
exams. of the R.I.C.S., and the syllabuses
of many exams. leading to National
Certificates, etc. Illus. From all
booksellers, 30/- net.

PITMAN TECHNICAL BOOKS

PARKER STREET, KINGSWAY,
LONDON, W.C.2

A HISTORY OF RENAISSANCE ARCHITECTURE

By BRUCE ALLSOPP, B.Arch., F.R.I.B.A.,
etc., author of "A General History of

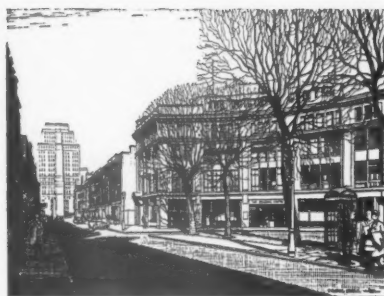
Architecture". Just published, this new
book is the only one of its kind covering
renaissance architecture as a whole,
seeing it from a modern point of view, and
in the light of the most recent research.

It traces the history of architecture
from the beginning of the Renaissance
in Italy, through its development in
Europe and America, up to the counter-
renaissance movements in Britain in the
eighteenth century.

PITMAN

With nearly 200
Parker St., Kingsway, superb
London, W.C.2 photographs.

From all booksellers, 50/- net.



USE THE BUILDING CENTRE

for all your problems
relating to
building materials
and equipment

Call, write or telephone

Open - Monday to Friday

9.30 a.m. - 5 p.m.

Saturday

9.30 a.m. - 1 p.m.

26 Store Street,
LONDON, W.C.1

Telephone: Museum 5400 - 10 lines

For WARMER, DRIER and CHEAPER HOMES

Specify

Lightweight Concrete Blocks

FOR INNER LEAVES OF EXTERNAL WALLS AND PARTITIONS (LOAD BEARING AND NON-LOAD BEARING)

But ensure that they comply with
British Standard Specifications by order-
ing from a member of the Federation
of Building Block Manufacturers

RECOMMENDED BY LEADING AUTHORITIES
APPROVED BY BUILDING SOCIETIES

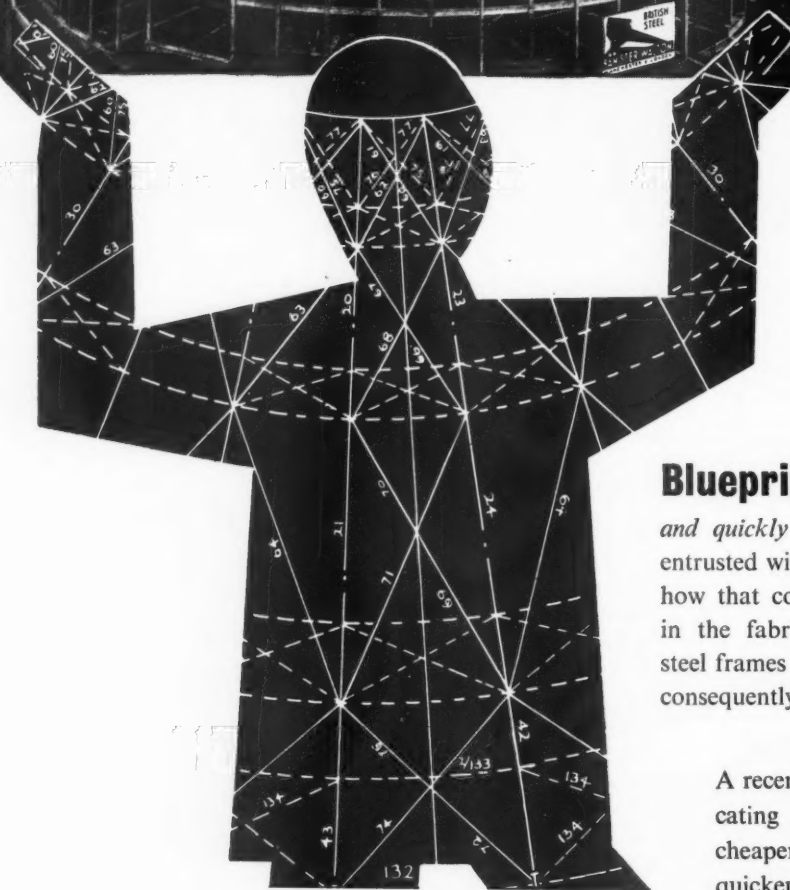
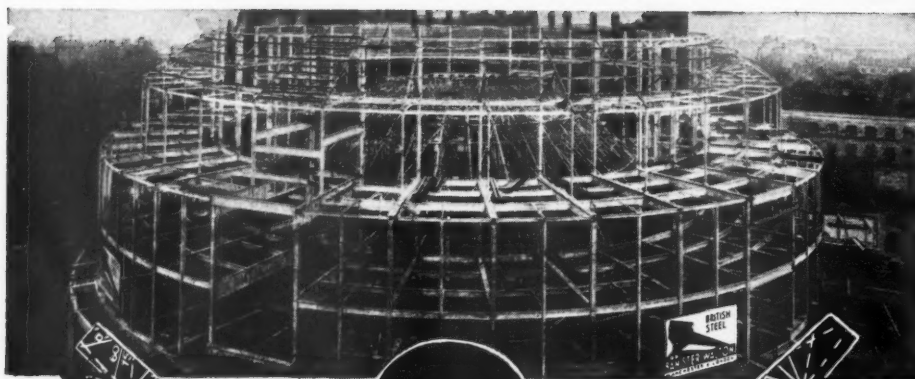
For particulars or list of members apply:

The Secretary

FEDERATION OF BUILDING BLOCK MANUFACTURERS

11 Ravensbury Avenue, Morden
Surrey.

Telephone: Mitcham 1463



Blueprints come to life

and quickly when Banister, Walton are entrusted with the steelwork. The know-how that comes from a long experience in the fabrication and the erection of steel frames means economy in time, and consequently, in money.

A recently installed automatic fabricating plant enables us to quote cheaper prices and to give even quicker deliveries. Ample steel stocks are immediately available.

Banister. Walton

build in steel

BANISTER, WALTON & CO LTD • Structural Steel Engineers & Stockholders • MANCHESTER • LONDON • BIRMINGHAM

Printed in Great Britain by Unwin Brothers, Ltd., Woking and London
All communications regarding Advertisements in this Journal should be addressed to the Advertisement Manager, R.I.B.A., 66 Portland Place, London, W1
Telephone: Langham 2271



CALTEX HOUSE

Knightsbridge, S.W.1.

Architects: Stone, Toms & Partners, F.R.I.B.A.

Contractors: Sir Robert McAlpine & Sons Ltd.

Another Modern Building with High Quality Sanitary Fittings by

BOLDINGS

BOWDEN

vitreous china flat top basin with
new pattern raised nose pillar taps



JOHN BOLDING & SONS LTD

GROSVENOR WORKS, Davies Street, London, W.1

Telephone: MAYfair 6647

AP/67



Kirche Beringen, Switzerland

STAINED GLASS & LEADED GLAZING

✦ STEEL & BRONZE WINDOWS ✦

SUPERIOR STANDARDS · 'ALL CLEAR' SLIDING
& SOUNDPROOF WINDOWS · LANTERN-LIGHTS
DOMES AND ORNAMENTAL IRONWORK

C. E. WELSTEAD

St. Andrew's Works,

LTD.

TANFIELD ROAD

TELEPHONE

CROYDON

CRO 3484

May 1959

Wind Effects on Roofs

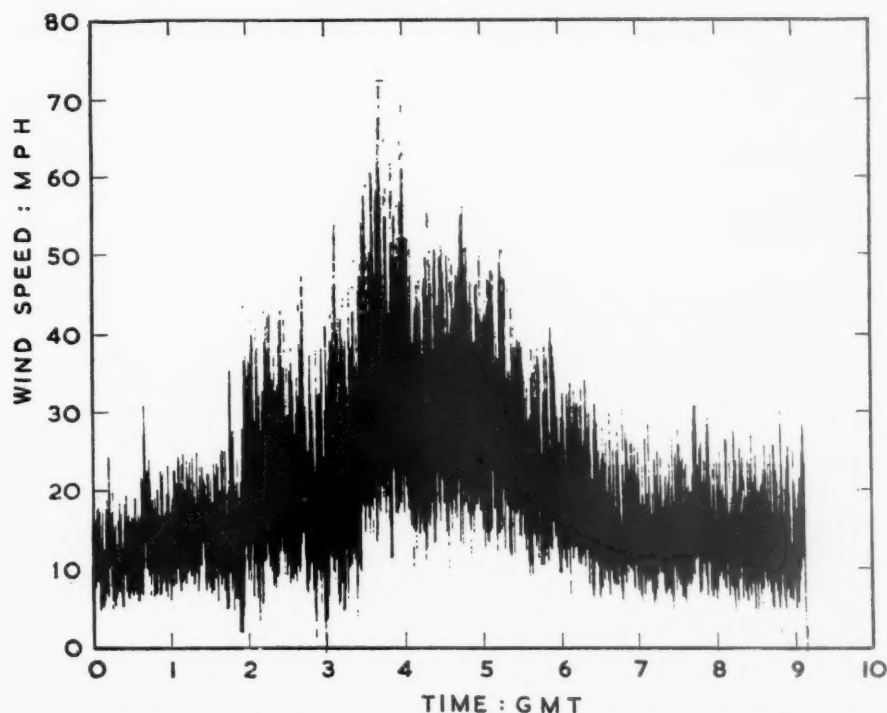


FIG. 1. Record of wind speed at Rothamsted from midnight to 9.20 a.m., November 4, 1957, based on the actual trace of an anemograph responding to gusts of 2-5 sec duration

THE CHARACTERISTICS OF WIND

The wind never blows perfectly steadily; its speed and direction are continually varying. This variability is illustrated in Fig. 1, which reproduces the trace of a wind speed recorder during a gale over Southern England. The mean speed of the wind averaged over a few minutes is clearly quite variable, but the most noticeable feature is the 'peaky' shape of the record. The peaks are due to gusts of very short

duration, about 2-5 seconds, the maximum speeds often being 30-50 per cent greater than the mean wind speed. Gusts having durations of less than about a second are considered to have no effect on buildings, and need not be considered further in this Digest.

At any given moment the speed of the wind also varies with the height above the ground. For example, in an open level situation if the

mean wind speed is, say, 50 m.p.h. at a height of 33 ft,* the mean wind speed at a height of 100 ft would be about 60 m.p.h.†

These figures relate to open and level situations, but where there are numerous obstructions to the free flow of air, such as vegetation and buildings, the proportionate increase of wind speed with height will be different.

In a strong wind the air is very turbulent and in consequence pockets or eddies of fast-moving air are brought down from high levels into the slower-moving air below, thus producing the gusts. On average the gust speed does not increase with height so rapidly as does the mean wind speed. For example, for a gust speed of 50 m.p.h. at 33 ft, the gust speed at 100 ft would be only about 55 m.p.h.

The stronger gusts seem to descend to the ground at an angle and rarely affect the whole height of tall vertical structures at one time.

Geographical variability

On the average the wind speed decreases markedly with distance from the sea. All the coasts of the British Isles are strongly exposed to winds, although the winds experienced on the east coast are on the whole less than on the west. The highest mean hourly wind speed at 33 ft, likely to be exceeded only once in 50 years, is around 50 miles an hour in Southern England, about 60 m.p.h. on eastern coasts, and 70 m.p.h. or more over much of the western coasts.

A map of the corresponding highest gust speeds (Fig. 2) gives a rather similar picture. The maximum gust to be expected is around 90 miles an hour in Southern England, 100 m.p.h. or more along most coasts, and up to 120 m.p.h. in the Western Isles.

All these figures apply to well-exposed sites, at 33 ft above the ground. Obstructions to the free flow of wind would of course considerably modify the picture.

* i.e. 10 metres—an internationally agreed height.

† The wind speed V_h at height h is related to the speed V_{33} at 33 ft above ground by the formula:
$$V_h = V_{33}(h/33)^{0.17}$$

Topographical variability

Although wind speeds in general decrease away from the sea, the wind at any place depends also on the type of country. In hilly country the wind may vary greatly over quite short distances. There will be a tendency for the air flow to be channelled along valleys, almost irrespective of the direction of the wind in the free air. Locally, these valley winds may be exceptionally severe when the general wind is from a particular direction.

When wind encounters a hill it is forced to rise and the stream-lines of the air-flow are brought together; there is in consequence a region of high wind speed near the brow of the hill. This effect is most marked over steep-sided hills facing into the wind, but may be important even with quite gentle hills in relatively flat country.

These effects are so complicated and vary over such short distances that it is not possible to display them on a small-scale map like Fig. 2. When considering the probable wind speed at any particular site it will be best to obtain the advice of the Meteorological Office.

Effect of buildings on wind flow

Buildings themselves affect the flow of the wind. Under some conditions the sheltering effect may be noticed for a distance down-wind of several times the height of the building. On the other hand beyond this distance the wind speed may be locally aggravated. In the immediate vicinity of a building, above and alongside, and especially around the edge of the roof, the wind speed may be appreciably greater than in the free air, just as it is over a hill.

In general, the wind will be greatly slowed down in a town, although in places there may be appreciable channelling of the wind, as in a valley. It is uncertain whether these channelling effects can give rise to wind speeds high enough to cause damage during an otherwise normal wind, but it has been found that the distribution of damage during gales may be markedly affected by the layout of roads and buildings.

PRESSURES DUE TO WIND

The revised British Standard Code of Practice, CP.3, Chapter V (1952), 'Loading', is now the

basis of most structural engineering design in this country so far as the effect of wind is

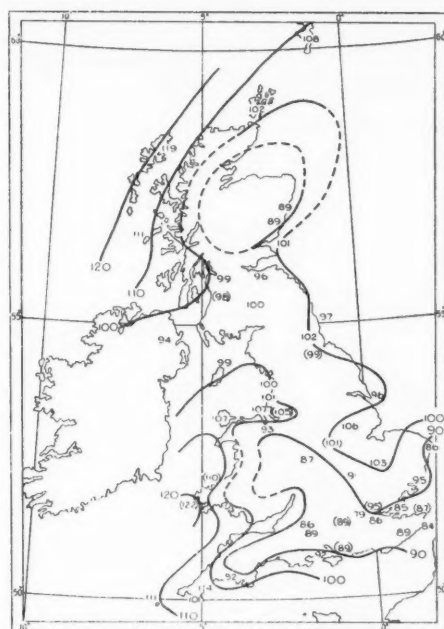


FIG. 2. Highest gust speed (m.p.h.) at 33 ft, likely to be exceeded only once in 50 years (values based on less than 15 years of record bracketed). (Reproduced by courtesy of the Director General Meteorological Office.)

concerned. The current Model Byelaws of the Ministry of Housing and Local Government specify that wind loading on a building shall be calculated on the basis of this code. All wind pressures to be adopted in design are related, in the Code of Practice, to a basic wind pressure 'p' (lb per sq. ft) which is determined from the formula

$$p = 1.2 \times 0.00256 V^2$$

where V is the nominal velocity of the wind in m.p.h. at a height of 40 ft for a specified exposure. The basic wind pressures, reproduced in Table 1, are also related to the effective height of the building (i.e., from the general ground level to half-way between the ridge and eaves) and are coupled with four degrees of exposure relevant to different localities in this country. The wind velocity included in Table 1 is the highest value of the mean velocity over a period of one minute that is likely within the life of a building in a particular locality. For guidance as

TABLE 1
BASIC WIND PRESSURE

Effective height of building (ft)	Basic wind pressure p (lb/sq. ft)			
	Exposure A ($V = 45$ m.p.h.)	Exposure B ($V = 54$ m.p.h.)	Exposure C ($V = 63$ m.p.h.)	Exposure D ($V = 72$ m.p.h.)
Up to 10	4	6	8	10
20	5	7	9	12
40	6	9	12	16
80	9	12	17	22
120	10	14	19	25
160	11	16	22	28
200 or more	12	17	24	31

to where the four exposure grades may be expected to apply the following information is given in Appendix 3 of the code:

'Exposure A. Exceptionally small exposure to wind as a result of natural protection to the building. This exposure hazard should be adopted only rarely, since often the shielding afforded by surrounding country of higher altitude is not effective for all directions of wind and in some directions a "funnel" effect may lead to considerable increase of wind pressure.

Exposure B. This grade should be used generally, except near the sea coast or estuaries or for altitudes over 500 ft above sea-level.

Exposure C. This grade is applicable to open country generally, for altitudes up to about 800 ft above sea-level, but not near the sea coast or estuaries.

Exposure D. This degree of exposure covers exposed sites within five miles of the coast or an estuary, or at an altitude of over 800 ft above sea-level.'

Owing to the importance of local topographical features, these gradings can only be used as a rough guide, and designers must obtain more information about the particular site before deciding on the wind velocity to be assumed. The local authority concerned will usually decide the appropriate value on the basis of experience and records of previous high winds. They in turn may well obtain advice from the Meteorological Office.

The mean wind velocity over a period of one minute is used as the design criterion in the code. Meteorological records, however, are usually in terms of the one-hour-mean velocity or of the maximum gusts. It is assumed in the

WIND DIRECTION (NORMAL TO EAVES)

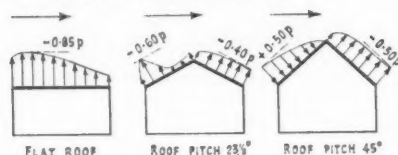


FIG. 3. External pressures and suctions on roofs

code that gusts, lasting only a few seconds, may be of little importance in their effect on buildings since (i) a gust affects only part of the building and the increased local pressure may be out-balanced by a momentary reduction in pressure elsewhere; and (ii) inertia of the building will reduce the effect of short-period gusts. It is usually sufficient to assume that the one-minute-mean velocity is 10 m.p.h. more than the one-hour-mean velocity.

Internal pressures

The main effect of wind on a roof is to develop an external pressure on the surface of the roof, but in addition air-flow through the cladding of the building and through openings in the cladding can build up an internal pressure on the underside of the roof surface. Both external and internal pressures are given in multiples of the basic pressure p (lb per sq. ft). In the code of practice, the term 'pressure' is used in a general sense, a negative sign being used to indicate suction.

If the openings are mainly on the windward side the wind will blow through the openings, creating a positive internal pressure (tending to push roof off). If the openings are mainly on sides other than the windward side, the passage of wind round the house will tend to draw air out of the house, creating an internal suction.

Generally the designer is concerned with buildings where the cladding permits some flow of air into, or out of, the building but where there are no large openings. Such buildings are described by the code as being of 'normal permeability' and the internal pressure recommended in the code for these buildings is $\pm 0.2 p$. Where the openings on one side of a building are large compared with those elsewhere (as, for example, in hangars), the internal pressures may be as much as $\pm 0.5 p$, depending on the direction of the wind. This applies if one side of a building is completely open, but

TABLE 2
DESIGN WIND PRESSURES ON ROOFS
(Wind normal to eaves)

Slope of roof on windward side	External wind pressure	
	Windward slope *	Leeward slope *
0°	-1.00 p	-0.75 p
10°	-0.70 p	-0.50 p
20°	-0.40 p	-0.45 p
30°	-0.10 p	-0.45 p
40°	+0.10 p	-0.45 p
50°	+0.30 p	-0.45 p
60°	+0.40 p	-0.45 p
70°	+0.50 p	-0.45 p
80°	+0.50 p	-0.45 p
90°	+0.50 p	-0.50 p

* Windward and leeward halves in the case of a flat roof

the code gives no guidance as to the pressures on roofs of buildings with no walls at all.

Effect of pitch of roof

Wind-tunnel tests on models are useful in determining the effect of the pitch of the roof on the distribution of wind pressure on its surface. Typical distributions of pressure on three types of roof as obtained from model tests are shown in Fig. 3. It will be seen that the distribution is not by any means uniform, but, for simplicity of design, the code recommends the assumption of uniform distribution over each of the main surfaces of a roof. Table 2 gives the external wind pressures for wind blowing at right angles to the eaves, set out at 10° intervals of slope. For normal openings in the building, the total pressures due to wind for which the roof structure must usually be designed are given in Table 3 for three roof slopes. For slopes up to 30°, wind generally causes external suction over the whole roof and the worst conditions of uplift are when an internal pressure is simultaneously acting.

For a slope of 45°, two combinations of external and internal load due to wind must be considered, as shown in the table corresponding to the alternative internal conditions. Which combination is the more serious will depend on the other loadings (dead and imposed) to be combined with the wind effect.

Table 3

COMBINATIONS OF EXTERNAL AND INTERNAL PRESSURES
GIVING THE TOTAL DESIGN WIND PRESSURE (buildings with
normal openings, wind perpendicular to eaves)

Component of roof	Total pressure	Type of roof		
		Flat	Dual pitch 23½°	Dual pitch 45°
Main structure	On windward slope†	-1.20 p	-0.50 p	+0.40 p
	On leeward slope†	-0.95 p	-0.65 p	-0.25 p
		$\left. \begin{array}{l} +0.40 p \\ -0.25 p \end{array} \right\} \text{ or } \left\{ \begin{array}{l} 0 \\ -0.65 p \end{array} \right.$		
Roof covering	Inward load	0	0	+0.50 p
	Outward load	-1.30 p	-0.75 p	-0.75 p
Fastenings for sheeting	Away from edges	As for roof covering		
	Near edges*	-2 p	-2 p	-2 p

* Within 15% of span from eaves and of length from gables

† Windward and leeward halves of flat roof

The code does not state specifically that the pressures of Table 2 apply only when the slopes are equal, and although all the examples given in Appendix 3 of the code are concerned with dual pitch roofs with the windward and the leeward slopes equal, the designer could assume that the table applies to roofs with unequal slopes as well.

For example, if a building has a saw-tooth roof with slopes of 30° and 60°, the design wind pressures on the windward slope would be -0.1 p or +0.4 p, depending on whether the wind was blowing on the 30° slope or the 60° slope. The design wind pressure on the leeward slope would be -0.45 p for both directions of wind.

Local pressures

The wind pressures discussed so far are the average pressures acting over large areas of the roof. Pressures much higher than these often occur locally. In addition, high pressures occur near the edges of the roof due to local eddies set up where the wind first sweeps up over the roof.

These local wind effects are important as regards the strength of the roof covering and the code recommends a total design pressure

for coverings equal to the external pressures quoted in Table 2 numerically increased by 0.3 p. The roof covering must be designed to carry the worst outward or inward loading and examples are given in Table 3; for low slopes the worst inward loading (i.e. simply the weight of the roof) occurs when the wind is not blowing at all. Although the code does not give the corresponding increase to the pressures of Table 2 for a building with large openings, this may be assumed to be 0.6 p.

Fastenings for the roof sheeting are required to resist the local pressures specified for the covering of the roof and, to allow for the more serious effects of wind near the edges of the roof, they must be designed to resist a suction of 2 p when they are within a distance of 15 per cent of the span from the eaves, and 15 per cent of the length from the gables. For conventional roof coverings, fastenings have been developed as a result of experience; for new types of covering or fastening, the code rules provide a criterion for checking their probable adequacy.

Direction of wind relative to building

It is of course necessary in design to assume that the wind may blow in any direction relative

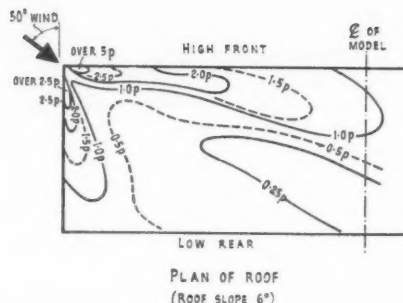


FIG. 4. Distribution of external suction over mono-pitch roof of low slope

to the building. The experimental evidence available at the time the code was drafted was mainly limited to wind-tunnel tests in which the wind was usually at right-angles to one or other of the main faces of some basic shapes of model. The design wind pressures given in Table 2, for wind normal (i.e. at right-angles) to the eaves of a building, were based on the results of these tests, and the code makes no reference to the pressures on roofs arising from wind blowing in any other direction. The provisions for increased forces on fastenings near the ends of buildings allow partially for the effect of wind blowing on the ends, but for the general roof structure it can apparently be assumed that a consideration of the forces arising from wind normal to eaves will ensure reasonable safety against wind from any other direction.

Although, for general design purposes, it is necessary to avoid undue complication, it is worth noting that local pressures on roofs, particularly near the edges, may be greatest when the wind blows obliquely across a building. The effect may be of particular importance for small buildings, such as houses, and especially if the roofs are of low pitch and of lightweight construction.

As an example, wind-tunnel tests have recently been carried out at the National Physical Laboratory on a rectangular model representing a building with a mono-pitch roof. Tests were made with the wind direction varied

through 360°. The suction determined with the wind normal to the eaves were not very different from those recommended in the code. However, with the wind directed at a corner of the model the suction over quite appreciable areas of the outer portions of the roof was considerably greater than the basic pressure p ; also extremely high suction, of $5p$ or more, were measured on very small areas of the roof in the vicinity of the corner at which the wind was directed. A typical distribution of wind suction for this worst direction of wind is shown in Fig. 4 in the form of contours on one half of the roof plan.

Overhangs

The small portion of a roof projecting beyond the walls at eaves level is a common constructional feature of the traditional roof. In many forms of roof, the effect of wind acting on the underside of a small roof overhang, as it may be called, would have no special significance and this is probably the reason why the code makes no specific mention of this feature. However the code does deal with what might be regarded as the limiting case of a very large overhang, a building completely open on one side, for which it recommends an 'internal' wind pressure of $+0.5p$ acting on the underside of the roof for wind blowing into the open side. Thus where it is necessary to include the effect of wind on the underside of a roof overhang it is suggested that, until further experimental data are available, the value of not less than $+0.5p$ mentioned above be accepted for the pressure beneath the windward overhang. This is equivalent to a suction load acting on the area of roof directly above the overhang, to be added to whatever external wind load has been calculated for the top surface of the particular roof.

As regards the leeward overhang, it would seem, from a comparison of the actual wind pressures on windward and leeward walls recorded in Appendix 3 of the code, that a value somewhat less, say $0.3p$, might be assumed to act as a suction on the underside of the leeward overhang.

SOME DESIGN CONSIDERATIONS

Strength and stability

Strength of a roof is its ability to carry load without failure by overstress. The load includes

the self-weight of the roof, wind load, an imposed load to allow for snow, and, in some cases where access to the roof is provided, an imposed load

to deal with possible concentrations of load on or in the roof structure. The design of a roof of normal construction on a stress basis using working loads given in codes or bylaws presents no great difficulty, although the designer now has to consider carefully the effect of wind, which can in some cases for instance lead to a reversal of stress in the members of the roof structure. It is common practice to allow increased working stresses when wind effects are considered, so long as the increase is wholly due to the wind.

Stability of a roof is its ability, by virtue of its self-weight alone or with anchorages or fastenings, to counter the uplift effects of wind. In the past with roofs of traditional design and material, stability rarely called for special anchorages. But the recognition that considerable wind suction occurs on some forms of roof (as indicated in the code of practice) makes it incumbent upon the designer of a relatively lightweight roof to investigate closely the possible need for anchorages to ensure an adequate margin of safety against the roof as a whole being detached from the rest of the building.

The margin of safety to be used in designing roofs to resist uplift or overturning is not stated in any code or bylaw. B.S.449 for the design of steel-framed buildings specifies a design factor of 1.5, i.e. the stability moment of any structure as a whole shall exceed the overturning moment due to wind and other forces by at least 50 per cent. Since roofs are more responsive to the effect of wind than is the building as a whole, a higher margin is desirable. For small house roofs, for example, it would be reasonable to ask for a factor of at least 3.0, that is, twice that called for in respect of a steel building as a whole.

Mono-pitch roofs

It has already been suggested that Table 2 can be used for roofs of unequal windward and leeward slopes. This is probably reasonable enough if the difference between the slopes is not more than 30° or so, but cannot be expected to be wholly satisfactory for mono-pitch roofs. Until more experimental data are available, it would probably be reasonable to assume that the external suction on a mono-pitch roof is the

same as that given in Table 2 for a windward slope of the same pitch.

Lightweight house roofs of low pitch

With the present tendency towards lightness in construction, troubles have been experienced because the suction due to wind is sometimes sufficient, if the roof pitch is low, to cause the roof to lift if it is not adequately anchored to the walls. Lightweight roofs of houses have comparatively little inertia and can respond to gusts of winds more readily than the larger, heavier roofs of bigger buildings. The recommendations of the Code of Practice may not, therefore, be wholly satisfactory for these lightweight roofs and a safer basis for design is suggested below. It is assumed that the roof members and cladding are properly connected together to act as a whole in resisting wind and other forces.

In a block of several houses, the end houses may be more seriously affected by wind blowing at an angle to the face of the building and it is desirable therefore to give special consideration to the stability of the roofs of these end houses.

Except for the end houses, the external wind suction should be deduced from Table 2 but the suction should be assumed to be increased to $1.5p$ within a distance of 4 ft from the windward edge of the roof. The external wind suction on end houses should be assumed to be 50 per cent greater than those of the other houses, and also the suction should be assumed to be increased to $2.25p$ for a distance of 4 ft from the end of the roof for the whole depth of the house. For a flat roof, these external suctions are illustrated in Fig. 5 (a).

The internal pressure, also tending to lift the roof, should be assumed to be $0.2p$ as specified in the code for a building with normal openings. Where a roof has overhangs, the upward pressure under the overhang on the windward side may be taken as $0.5p$ and the suction under the overhang on the leeward side may be taken as $0.3p$. The resulting total suctions for an end house with a flat roof and overhangs are shown in Fig. 5 (b).

In order to provide an adequate margin of safety where no special anchorage of the main roof structure is provided and the effects of wind suction have to be resisted by the weight of the roof alone, this weight should be at least sufficient to prevent uplift or overturning of the

roof when the forces due to wind are assumed to be increased to three times the normal values calculated in accordance with the above recommendations.

When the dead weight of the roof is insufficient to satisfy this requirement, special anchorage must be provided such that the weight of the roof, together with the holding-down strength of the anchorage, is at least sufficient to prevent uplift or overturning of the roof when the forces due to wind are again assumed to be increased to three times the normal values.

It is important that the assumed ultimate strength of special anchorages should be realistic in relation to the variability of this strength and the standard of workmanship probably attained on the site. Where permissible design loads are given in codes or byelaws (e.g. for bolting or nailing) it should be assumed that the ultimate strength is not more than twice the design values.

In the past, house roofs required no special anchorage. Accordingly, where such special provision is necessary for lightweight roofs of low pitch, it is desirable to draw particular attention to the need for this anchorage in the contract documents so that adequate supervision is arranged on the site to ensure that the anchorage is satisfactory. It should also be noted that, although a minimum margin of safety has been introduced into these recommendations, a much higher margin can usually be obtained with little increase in cost.

The wind forces on roof coverings and fastenings should in general be deduced on the basis adopted in the code. That is, the suction on the coverings should be taken as $0.1 p$ greater than the total values (including the effect of internal pressure) recommended above for the main roof structure; the fastenings should be sufficient to support these forces on the covering, and those fastenings within a distance of 4 ft of the span from the eaves of interior houses be capable of resisting a suction of $2 p$ on the area of covering that they support. In the case of end houses, it is probably best to design the fastenings for a

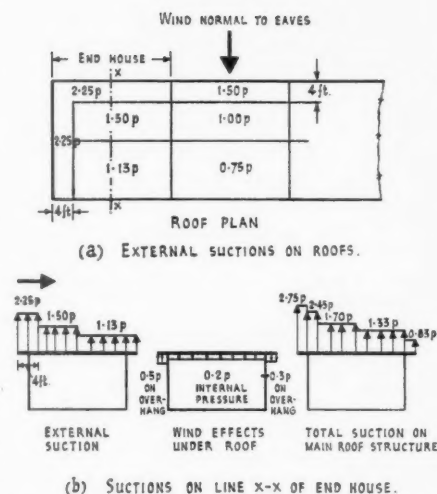


FIG. 5. Wind suction for a block of houses with flat roofs of lightweight construction

suction of $3 p$ on the covering over the full area of the house.

Special roofs

The code of practice does not deal with all practical conditions of wind loading. It is stated in the Appendix to the code that 'where the shape of the building in elevation and/or plan is unusual, or there are particularly large openings in the walls, or where there are no walls as in a dutch barn, available data are insufficient to justify well-defined recommendations for estimating the effects of wind, and in these cases, and also for exceptionally large buildings, wind-tunnel tests would be useful, if obtainable'.

For buildings with no walls, such as dutch barns, or for framed buildings during construction when infilling wall panels have not been built, it is probably safe to assume that the worst internal pressure beneath the roof arises when partial filling of the barn, or partial cladding of the framed building, leads to conditions similar to those of buildings with one side open. That is the pressure or suction beneath the roof is $0.5 p$.

© Crown copyright 1959

Printed in Great Britain by Unwin Brothers Limited

and published by

HER MAJESTY'S STATIONERY OFFICE:

Single copies 4d. each

Annual subscription 6s., including postage

